

FINAL REPORT
MARCH 1997

REPORT NO. 94-28

ENVIRONMENTAL MONITORING OF
120MM TANK AMMUNITION
TRANSPORTED FROM IOWA ARMY
AMMUNITION PLANT (IAAAP) TO
SOUTH KOREA

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Prepared for:
U.S. Army Armament Research,
Development and Engineering Center
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<p>Two MILVANs loaded with 10 pallets each of 120mm tank ammunition were instrumented with Event Data Recorders (EDRs) from Instrumented Sensor Technology, Inc. Each unit was capable of recording shock/vibration for the lateral, longitudinal, and vertical axis and temperature/humidity. The MILVANs transportation cycle included travel by truck from Iowa Army Ammunition Plant (IAAAP), Burlington, IA; to Concord, CA; ship from Concord, CA to Chinhae, South Korea; and rail from Chinhae, South Korea to Army Depot 11 (AD-11) at Chon-u/Chonan, South Korea. Environmental monitoring was conducted from 27 June - 19 July 1995. During monitoring, 566 shock/vibration events were experienced that met the triggering criteria programmed in the EDR and 1,354 temperature/humidity readings were collected.</p>					
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REPORT NO. 94-28

ENVIRONMENTAL MONITORING OF 120MM TANK
AMMUNITION TRANSPORTED FROM IOWA ARMY AMMUNITION
PLANT (IAAAP) TO SOUTH KOREA

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PART 1

INTRODUCTION

A. BACKGROUND. The U.S. Army Defense Ammunition Center (DAC), Validation Engineering Division (SIOAC-DEV), monitored environmental conditions and shock/vibration during the transportation of two MILVANS loaded with 10 pallets each of 120mm tank ammunition from Iowa Army Ammunition Plant (IAAAP), Burlington IA, to Army Depot 11 (AD-11) at Chon-u/Chonan, South Korea. Monitoring was conducted from 27 June - 19 July 1995.

B. AUTHORITY. This monitoring was conducted IAW mission responsibilities delegated by the U.S. Army Armament, Munitions and Chemical Command (AMCCOM), Rock Island, IL. Reference is made to the following:

1. Change 4, 4 October 1974, to AR740-1, 23 April 1973, Storage and Supply Activity Operation.

2. AMCCOM-R, 10-17, Mission and Major Functions of USADACS, 13 January 1986.

C. OBJECTIVE. The objective of this monitoring was to determine the extremes of the shock/vibration and temperature/humidity that the loads of ammunition had experienced.

D. CONCLUSION. Results from monitoring indicated that the shock/vibration experienced during the transport of the ammunition was mild with the majority of the readings being in the 0 - 1 G range. Results from monitoring also indicated that the temperature/humidity experienced in South Korea was significantly higher than what was experienced during the U.S.A. truck movement and ship transport phases. The maximum temperature experienced in South Korea was 123.8 degrees Fahrenheit while the maximum was only 98.6 degrees

Fahrenheit during the U.S.A. truck transport and 84.2 degrees Fahrenheit during the ship transport.

PART 2

27 JUNE - 19 JULY 1995

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PART 3

TEST PROCEDURES

For this monitoring, the EDRs were glued to the top of the right center pallet (see figures 1 and 2). Both EDRs used during the transportation monitoring were programmed to record a temperature/humidity reading every 30 minutes and all shock/vibration events that exceeded 0.5 G on any axis for a 10 millisecond duration. For this monitoring, 200 data samples were recorded for each acceleration event that exceeded the 0.5 G trigger criteria, 100 points prior to the trigger and 100 points after the trigger. Each acceleration event recorded was also stamped with the date and time when the acceleration event occurred. Sample rate for the acceleration events was 200 points per second for each axis and all acceleration events were filtered with a 50Hz low bandpass analog filter.

FIGURE 1: CUTAWAY VIEW OF LOADED MILVAN

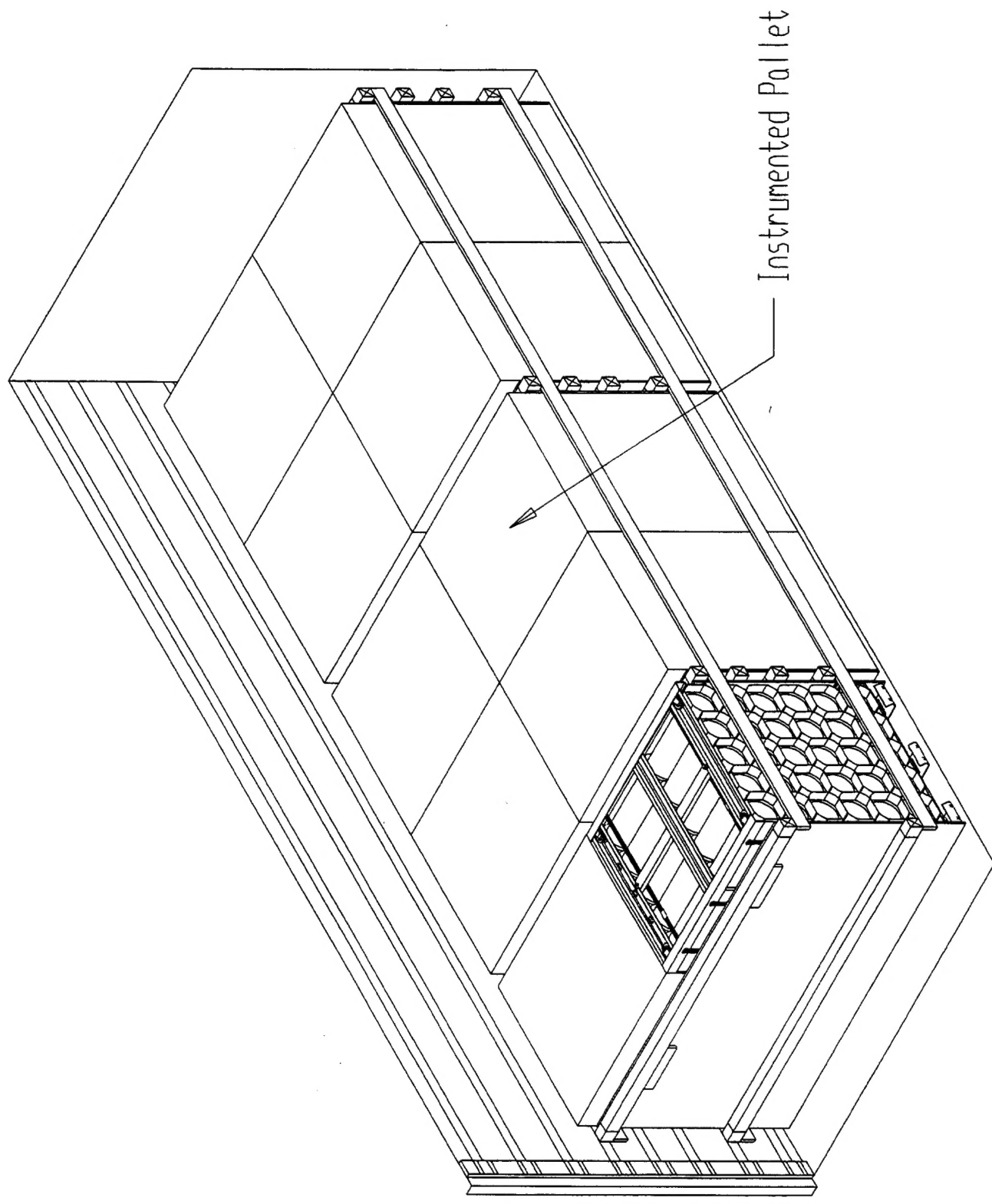
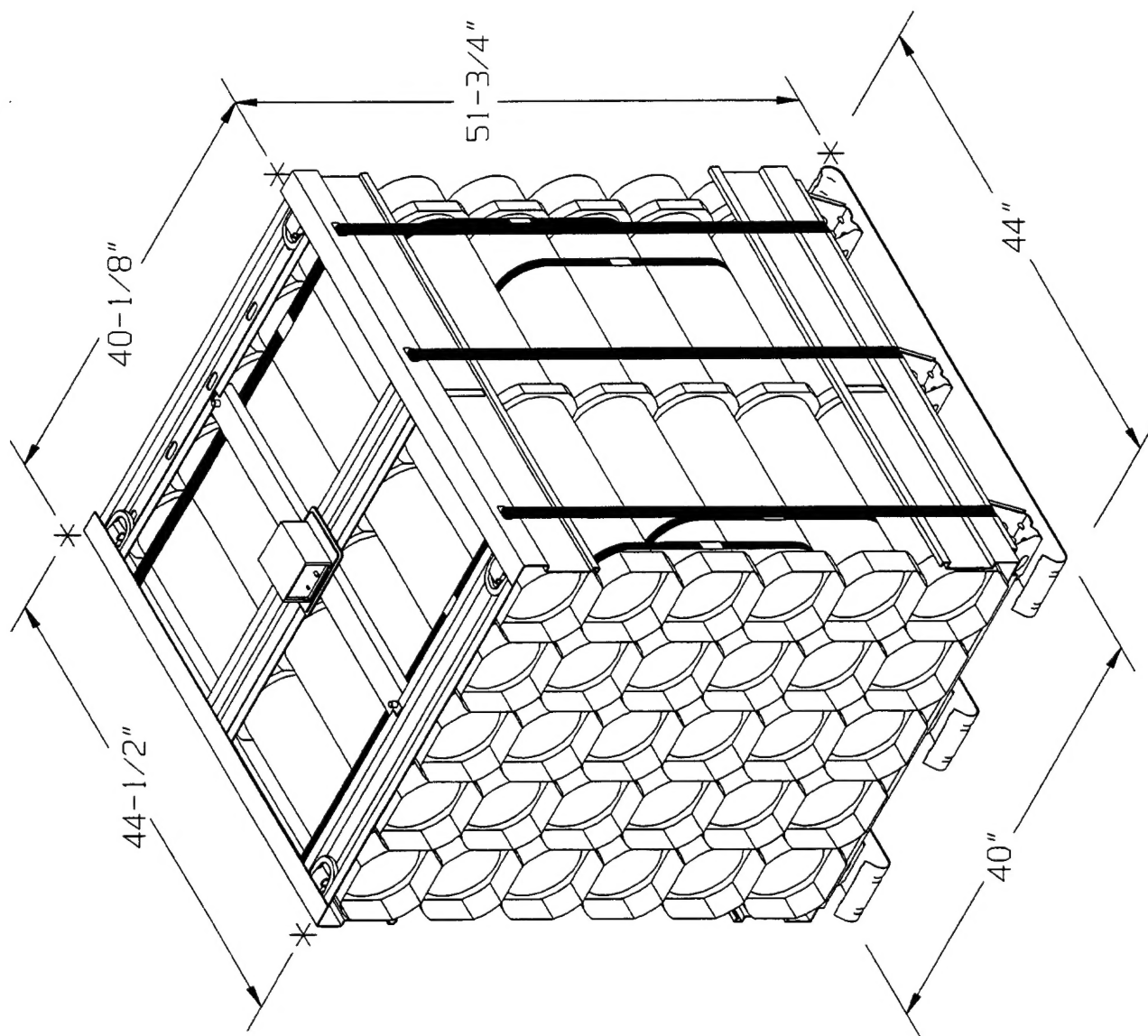


FIGURE 2: CLOSE UP VIEW OF 120MM
TANK AMMUNITION PALLET



PART 4

TEST RESULTS

Upon arrival in South Korea, the data logging units were removed from the pallets and returned to the U.S.A. for downloading of collected test data. Upon return to the U.S.A., one of the two data logging units was found to have a faulty backup battery and did not retain any of the readings collected during ammunition transportation. The other data logger was found to have collected 566 shock/vibration events and 1,354 temperature/humidity readings. Once retrieved, the data were converted into Lotus 1-2-3 spreadsheets for analysis.

Temperature/Humidity. Initially, graphs were produced for the 1,354 temperature/humidity readings. As seen in part 5-2 and 5-3, each mode of transportation subjected the MILVAN to different levels of temperature/humidity. The truck and rail portions of the transportation cycle showed the daily temperature/humidity fluctuations associated with solar heating while the ship portion of the transportation showed very little fluctuation. The last six days of the temperature/humidity readings taken in South Korea represent storage conditions for the MILVANs since the data loggers were set to stop recording temperature/humidity on a pre-set date versus a lack of movement shutdown. Minimum, maximum, and average values for the individual modes of transportation are illustrated in the following table:

U.S.A. Transportation (26-30 Jun 95)		
	Temperature (Fahrenheit)	Humidity (percent)
Min	62.6	37.0
Max	98.6	74.0
Avg	74.2	61.7
Ship Transportation (01-13 Jul 95)		
	Temperature (Fahrenheit)	Humidity (percent)
Min	69.8	67.0
Max	84.2	73.0
Avg	76.1	69.9
South Korea Transportation (14-25 Jul 95)		
	Temperature (Fahrenheit)	Humidity (percent)
Min	69.8	28.0
Max	123.8	78.0
Avg	86.4	62.1

Shock/Vibration. Analysis of the 566 shock/vibration events revealed that 201 of the shock/vibration events occurred in the U.S.A. during truck transport from IAAAP to Concord, CA (26-29 Jun 95) and the other 365 events occurred during the container handling and rail transport in South Korea (15-19 Jul 95). No shock/vibration events occurred during ship transport indicating that no shock/vibration events occurred during that phase of transport that met the 10 millisecond 0.5 G triggering criteria.

During the next phase of analysis, minimum and maximum values were calculated for each shock/vibration event that occurred during transportation monitoring. The values obtained for this process are listed in part 6. The minimum and maximum values were then used to construct histograms for each axis of shock/vibration that were recorded. The histograms shown on pages

5-4 through 5-6 were constructed by counting the number of occurrences for the peak levels of shock/vibration (both negative and positive) for each event; i.e., each axis of shock/vibration data was counted twice, once for the maximum value and once for the minimum value. Separate counts were maintained for the U.S.A. and South Korea transport cycles. The actual histograms shown are based on percentage of occurrences rather than actual occurrence count due to the fact that more events occurred in South Korea than in the U.S.A.

During the last phase of analysis, graphs of the peak events measured during the U.S.A. and South Korea transportation cycles were produced for each of the 3-axis (see pages 5-7 through 5-15). When selecting the peak event that occurred during the U.S.A. transport, a large magnitude spike of 4.68 Gs was detected at the very end of the U.S.A. transport monitoring (06-29-95, 10:28:10 CST). Since the spike occurred in the vertical direction and it was the last event recorded while still in the U.S.A., the spike was determined to have most likely occurred during the removal of the MILVAN from the container chassis or during the loading of the MILVAN onto the ship. Graphs of this unloading event were still produced as well as the next highest peak event (06-27-95, 16:57:09 CST) measured during the U.S.A. transportation cycle so that examples of actual U.S.A. transportation data were available. No exceptions were noted during the selection of the peak event for the South Korea phase of transportation (07/17/95, 03:06:30 CST).

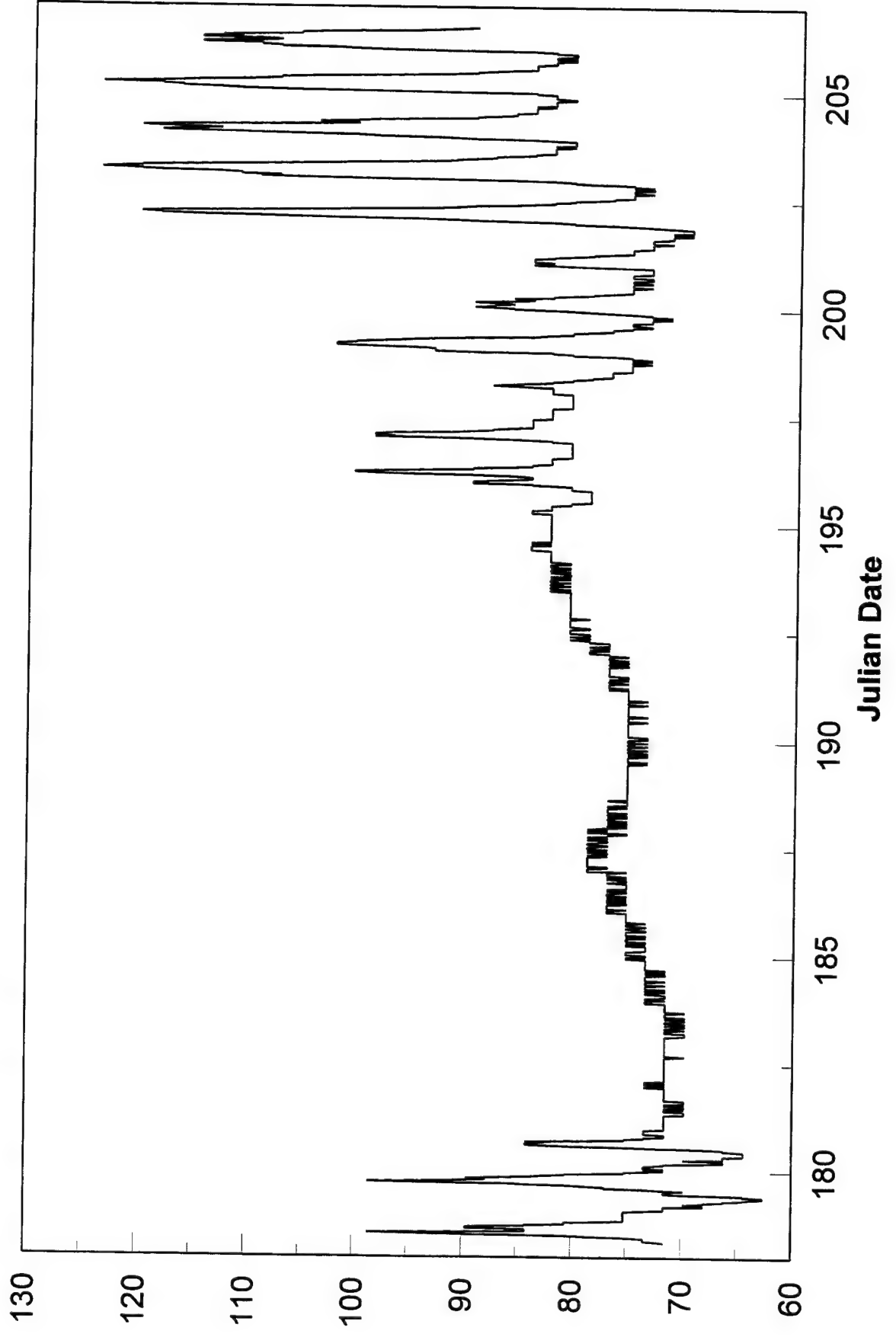
PART 5

GRAPHS

MILVAN Temperature During Transport

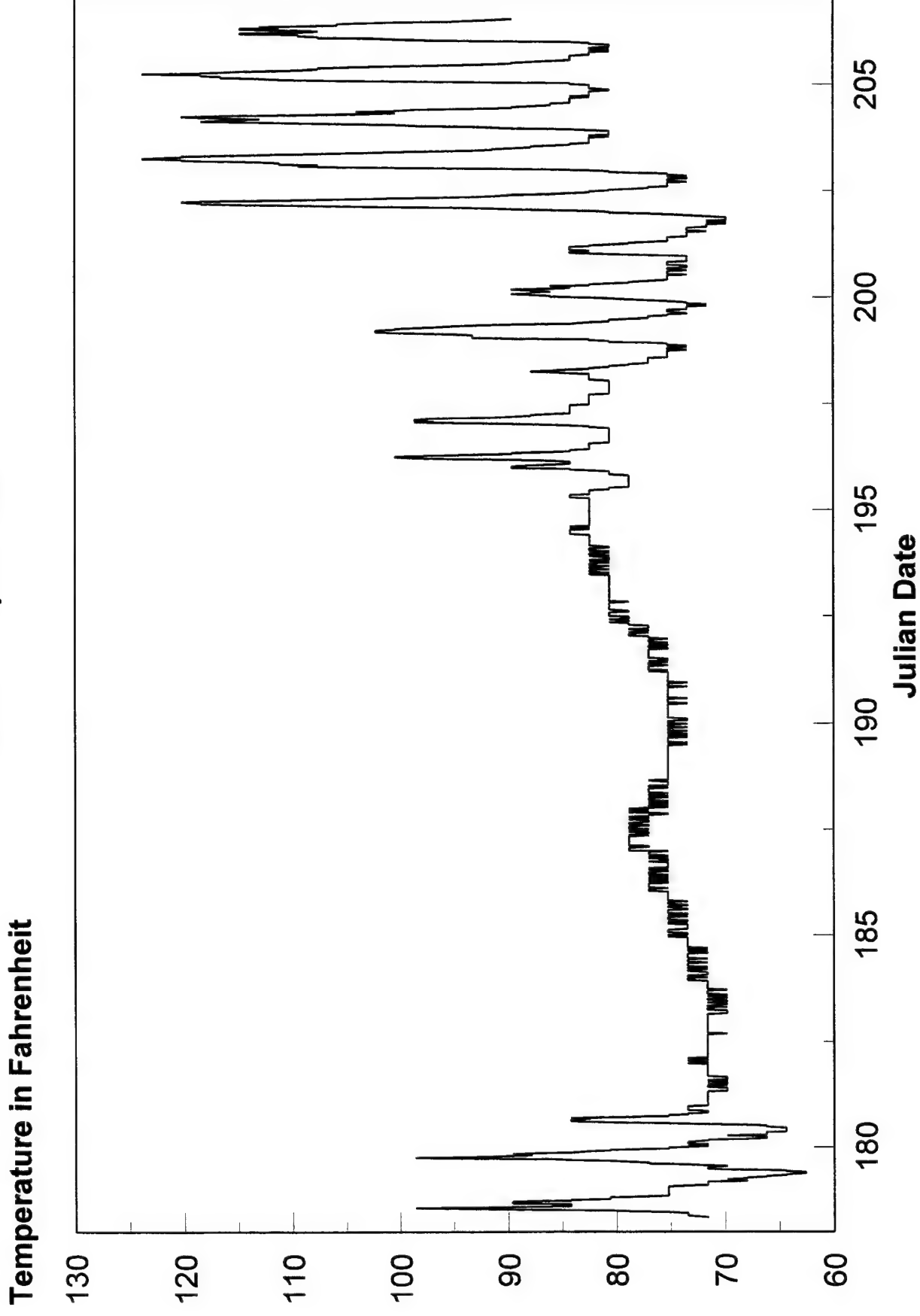
June 27 - July 25, 1995

Temperature in Fahrenheit



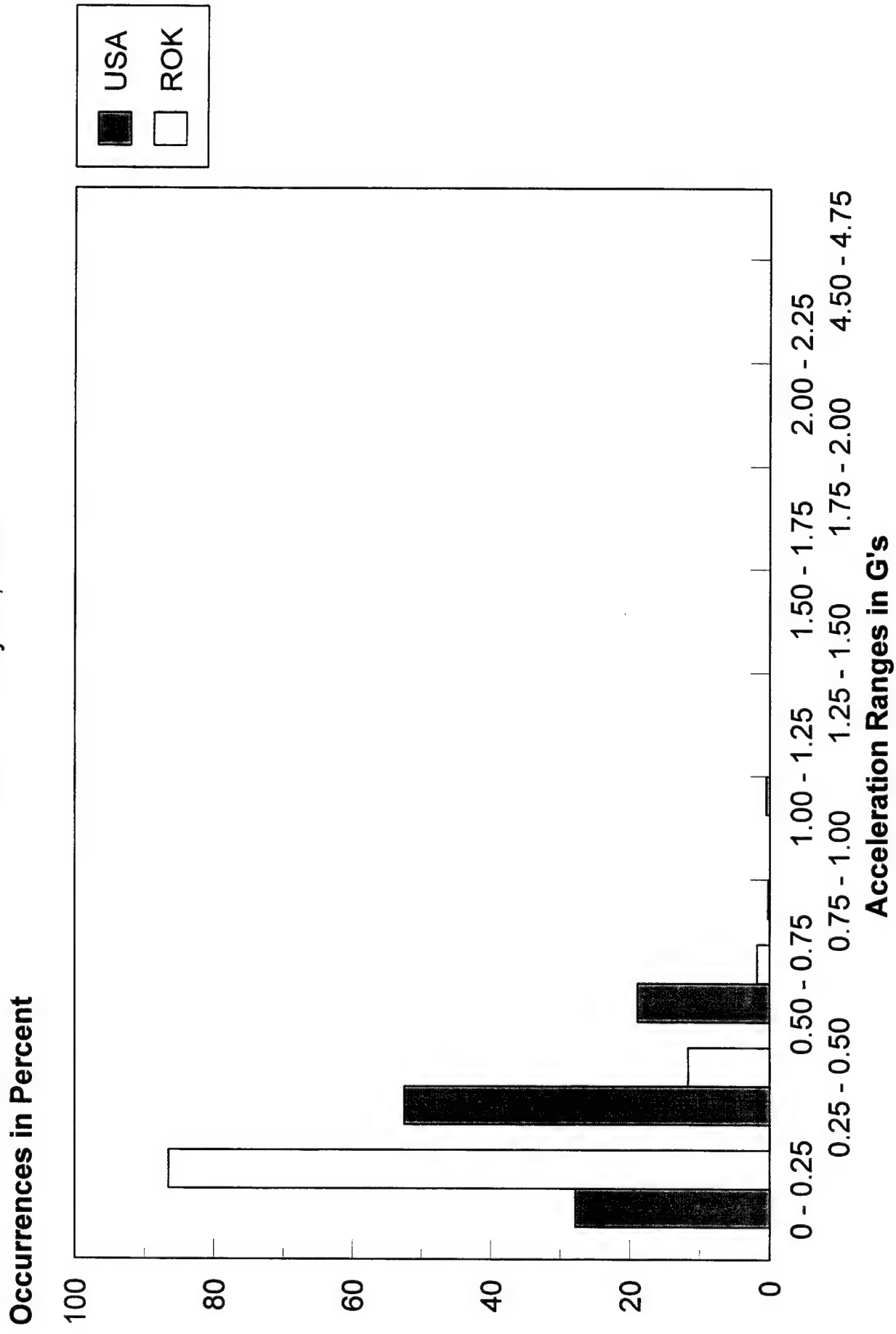
MILVAN Temperature During Transport

June 27 - July 25, 1995



Histogram of Peak Longitudinal Accelerations

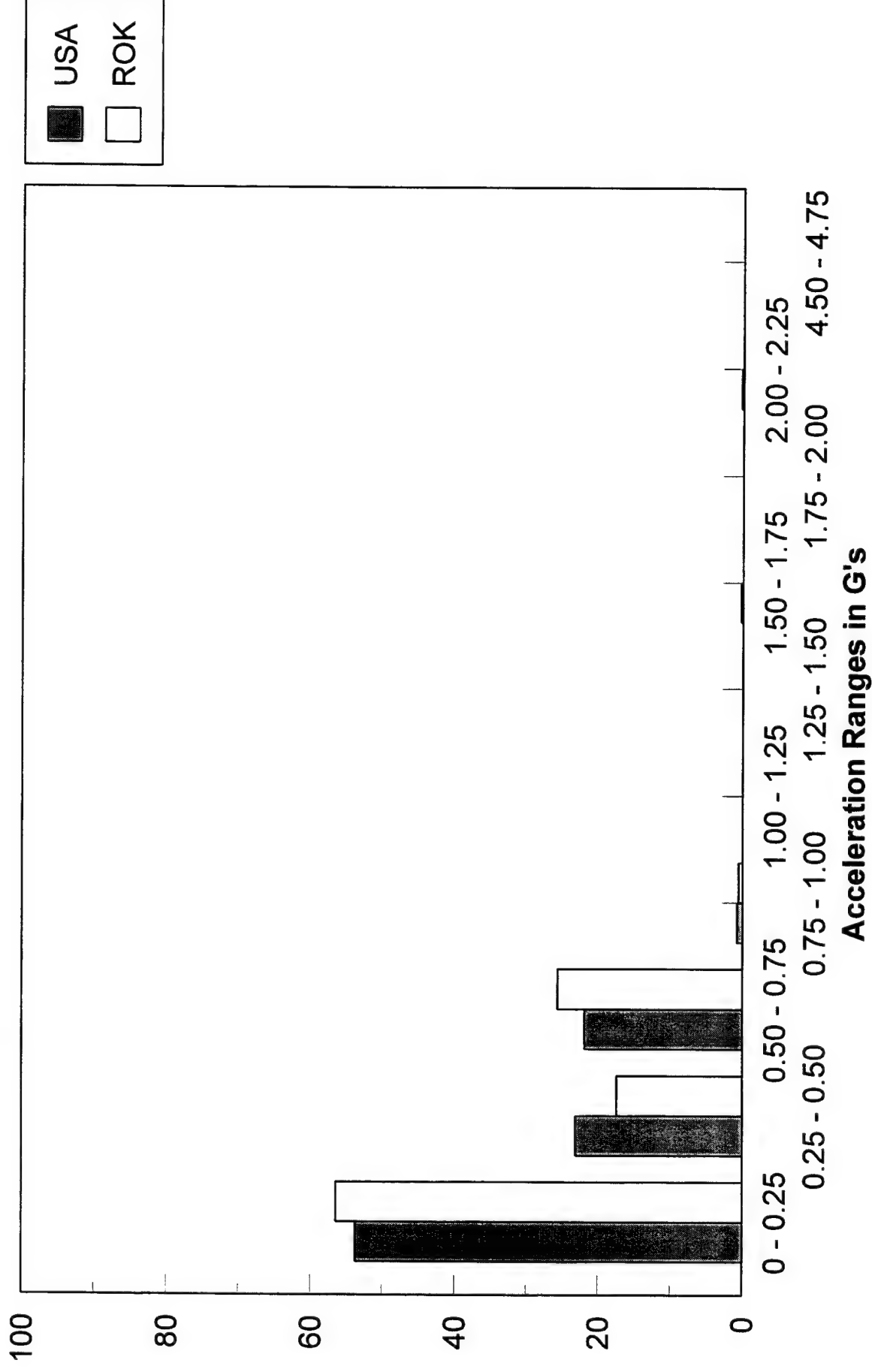
June 27 - July 25, 1995



Histogram of Peak Lateral Accelerations

June 27 - July 25, 1995

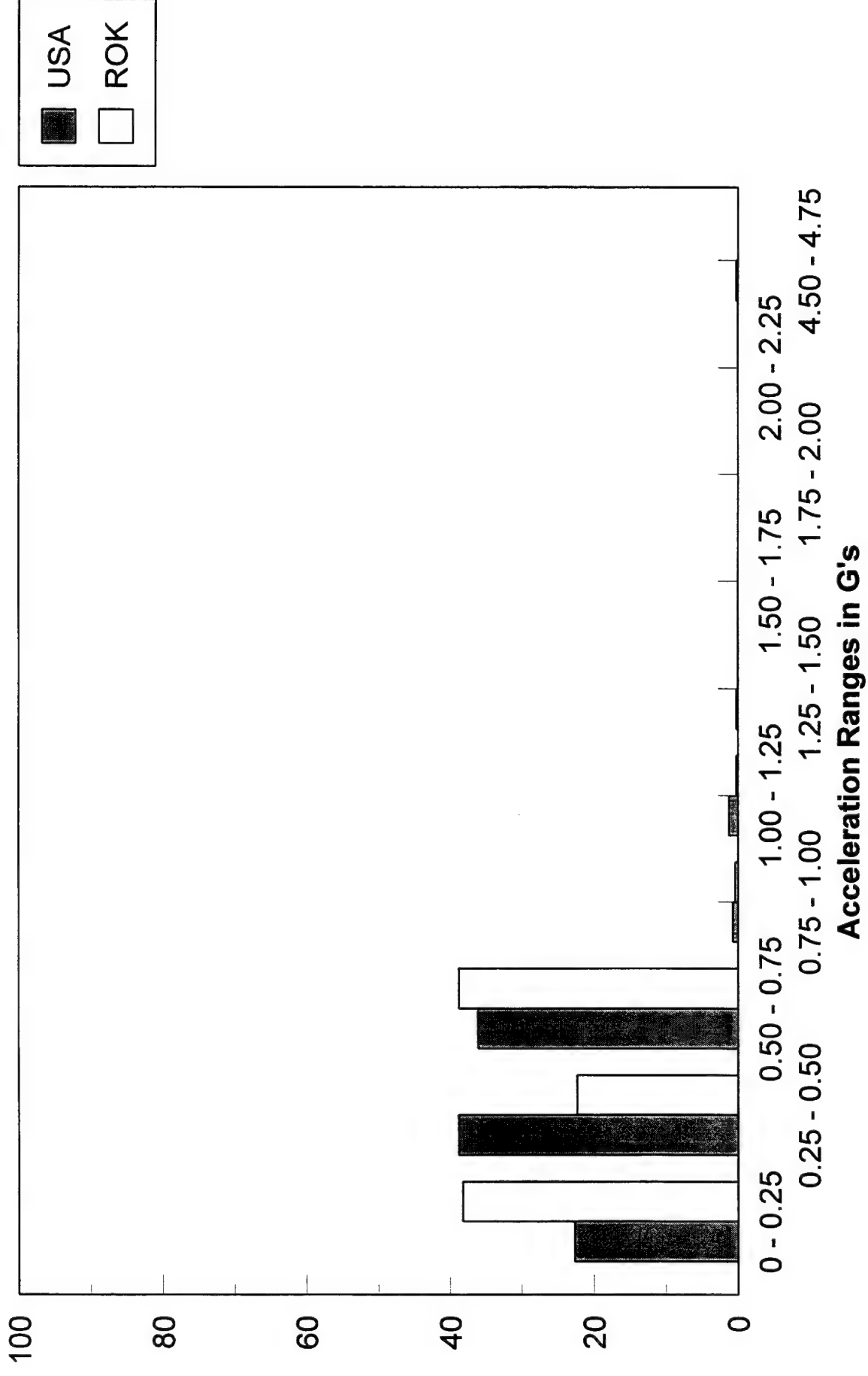
Occurrences in Percent



Histogram of Peak Vertical Accelerations

June 27 - July 25, 1995

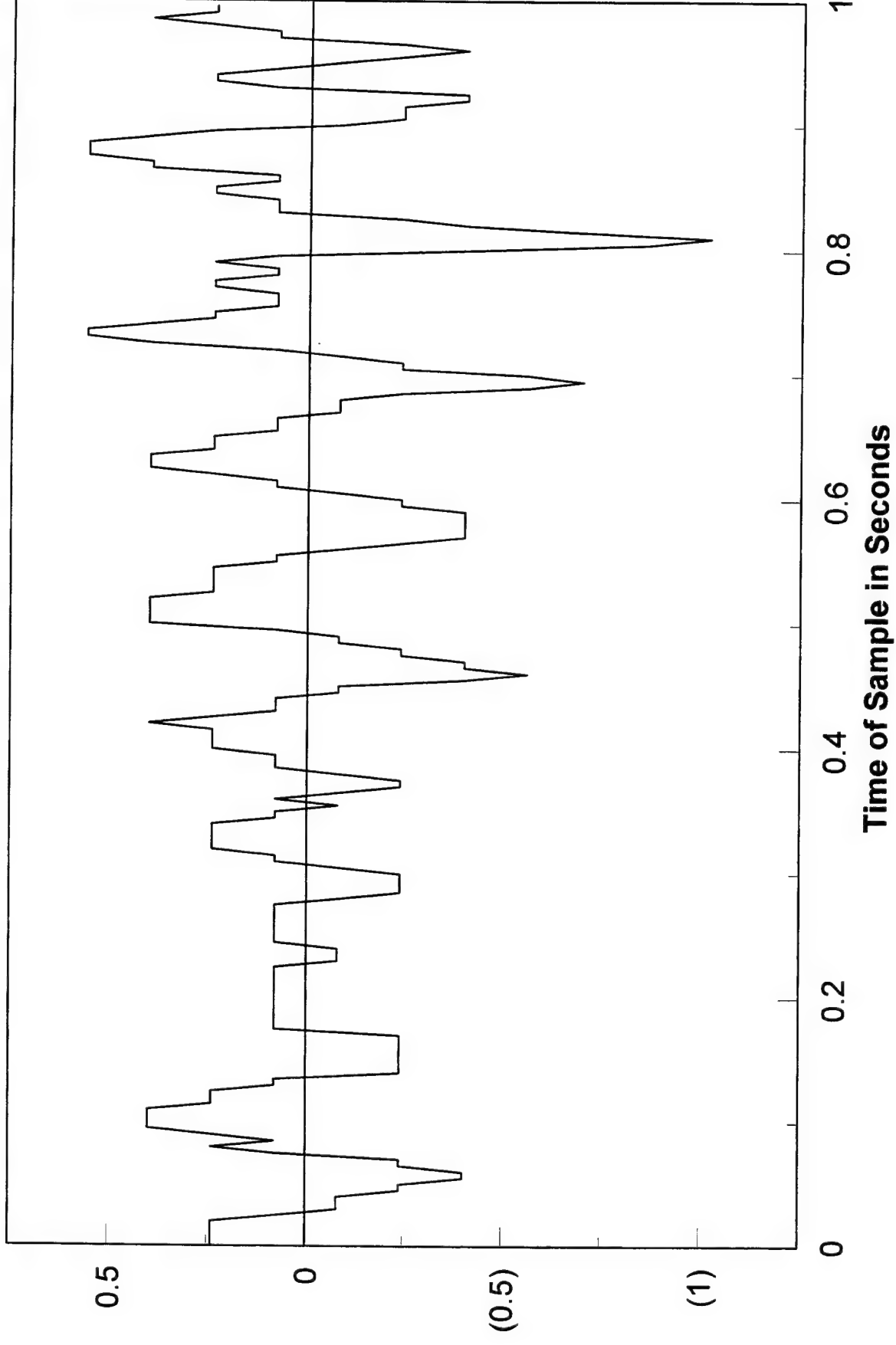
Occurrences in Percent



Longitudinal Acceleration

06-27-95, 16:57:09

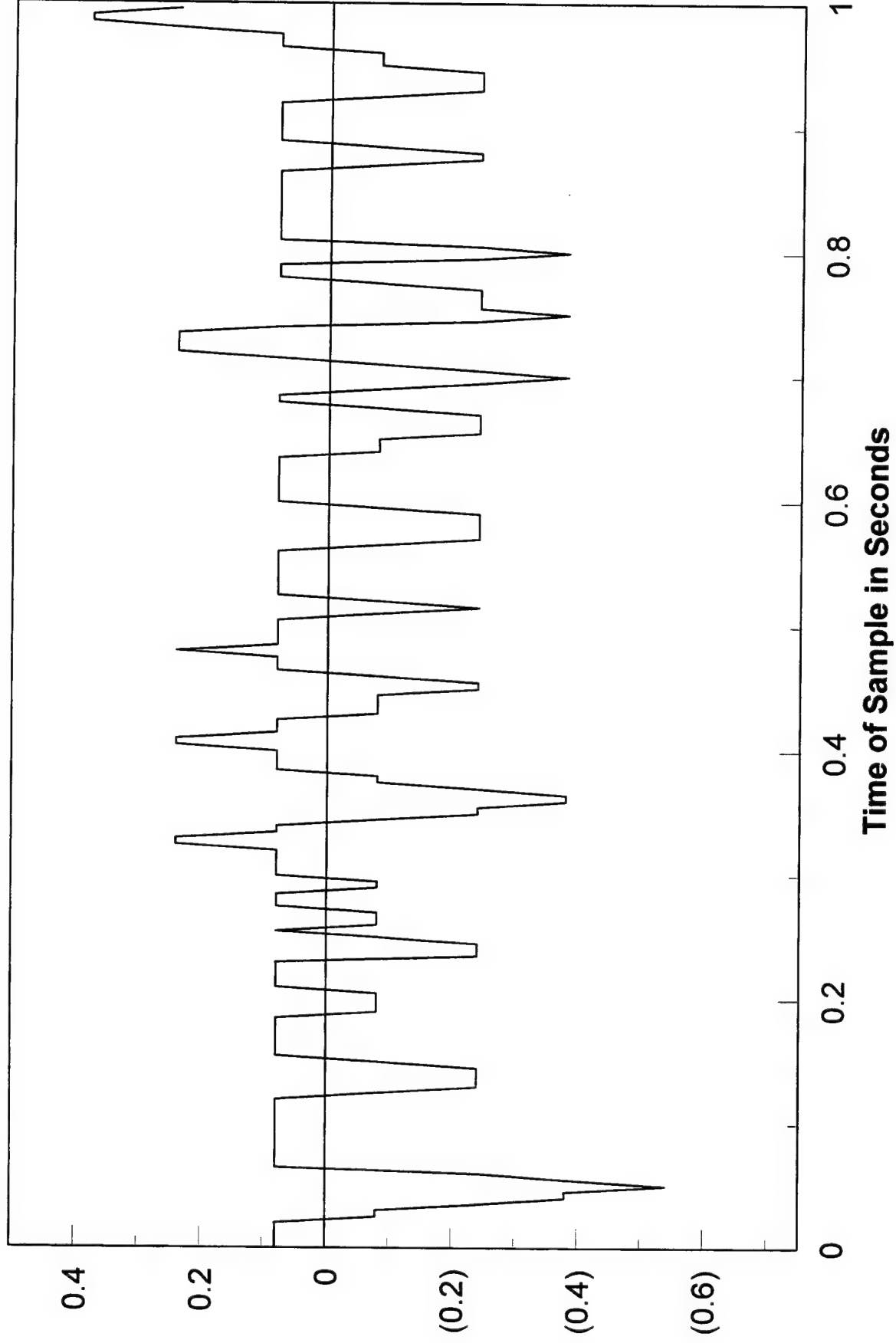
Acceleration in G's



Lateral Acceleration

06-27-95, 16:57:09

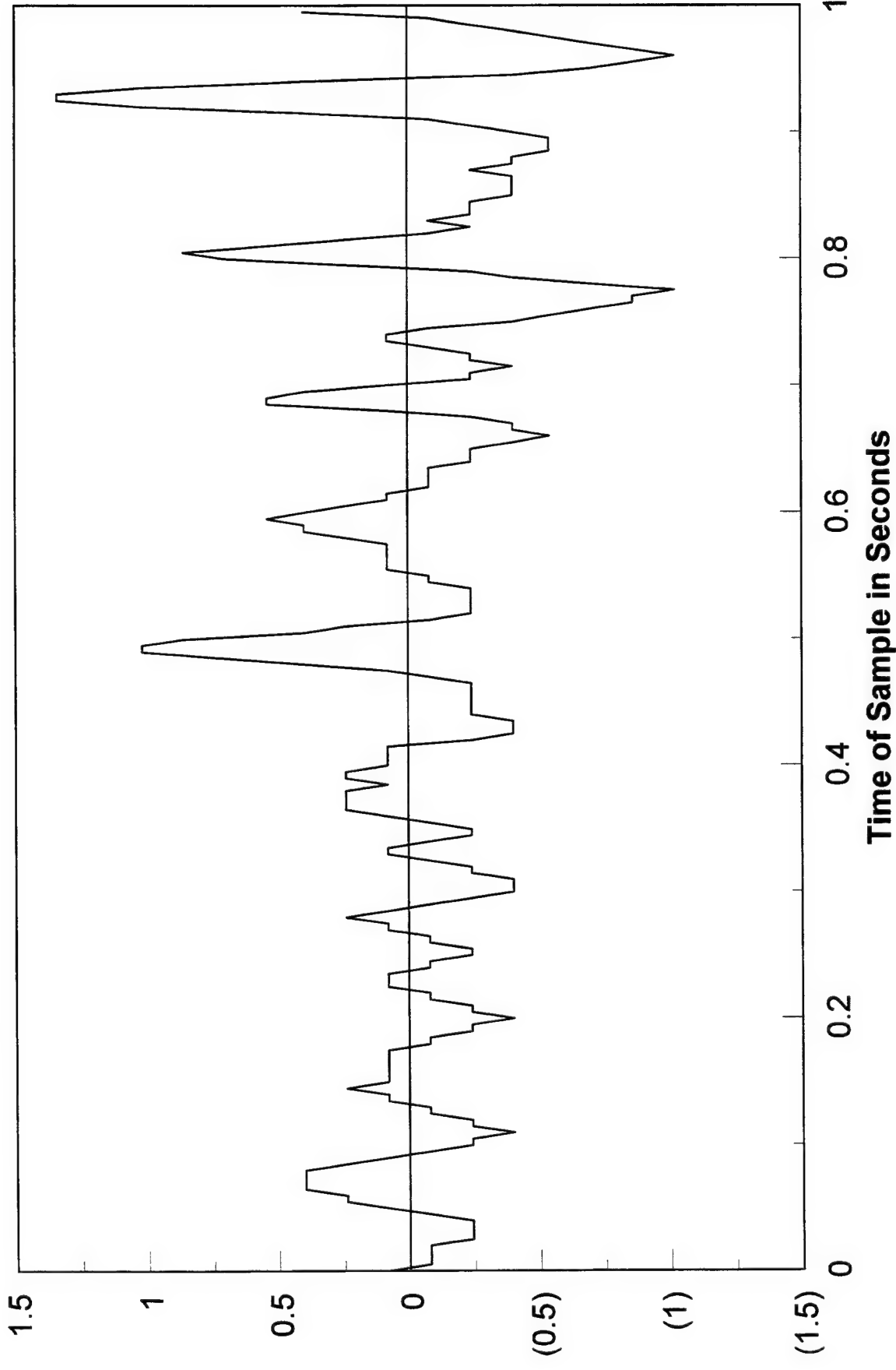
Acceleration in G's



Vertical Acceleration

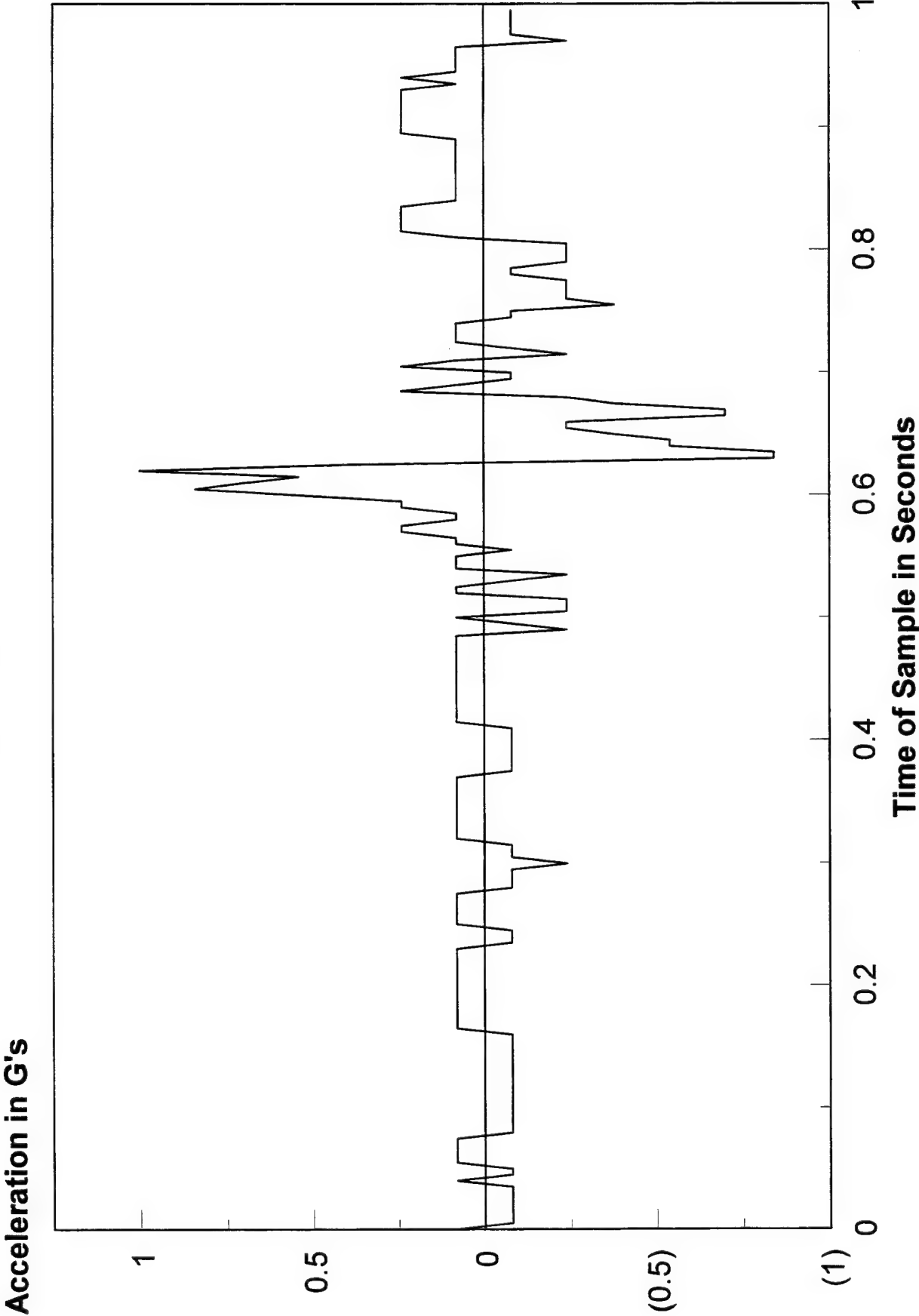
06-27-95, 16:57:09

Acceleration in G's



Longitudinal Acceleration

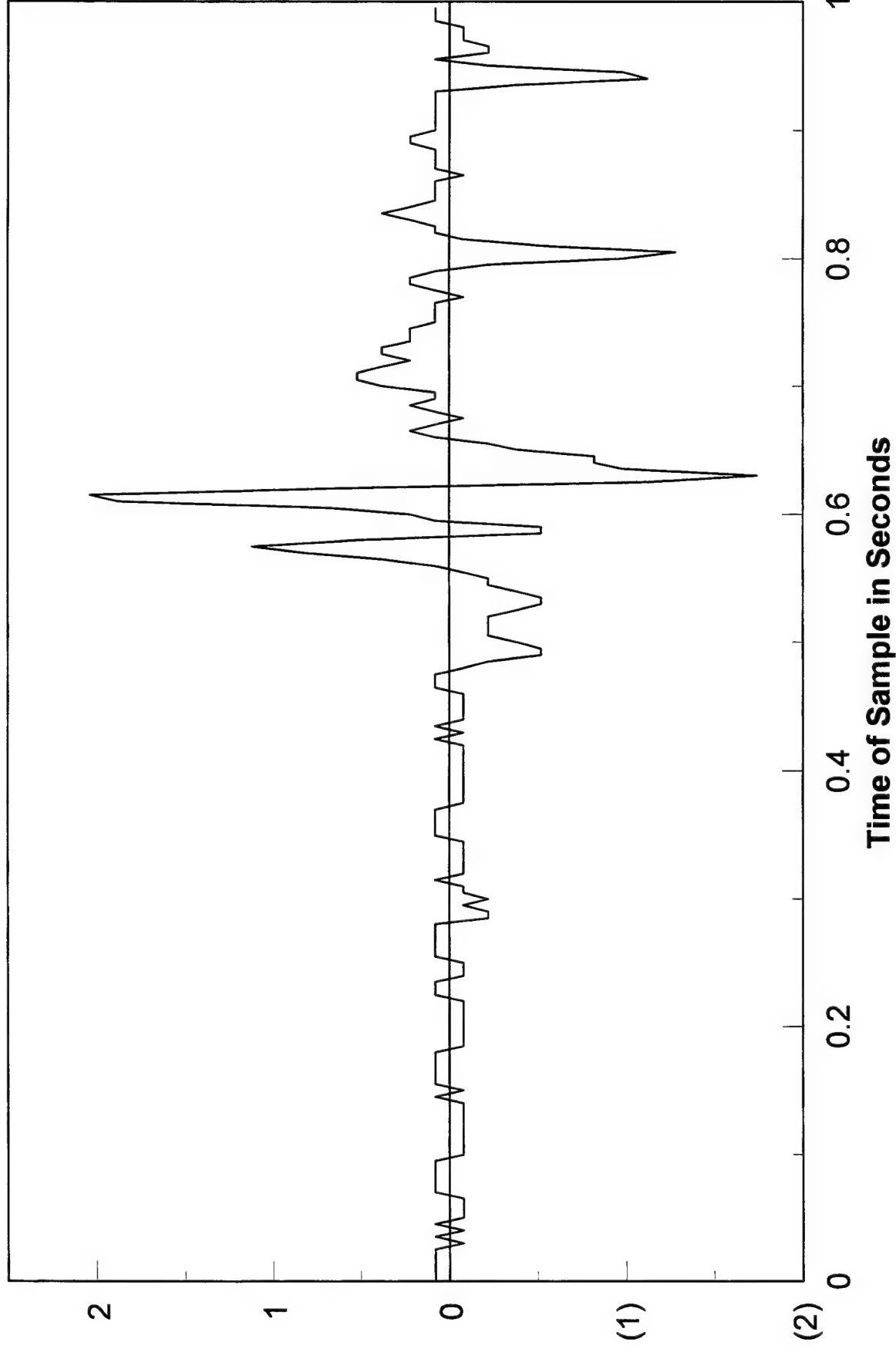
06-29-95, 10:28:10



Lateral Acceleration

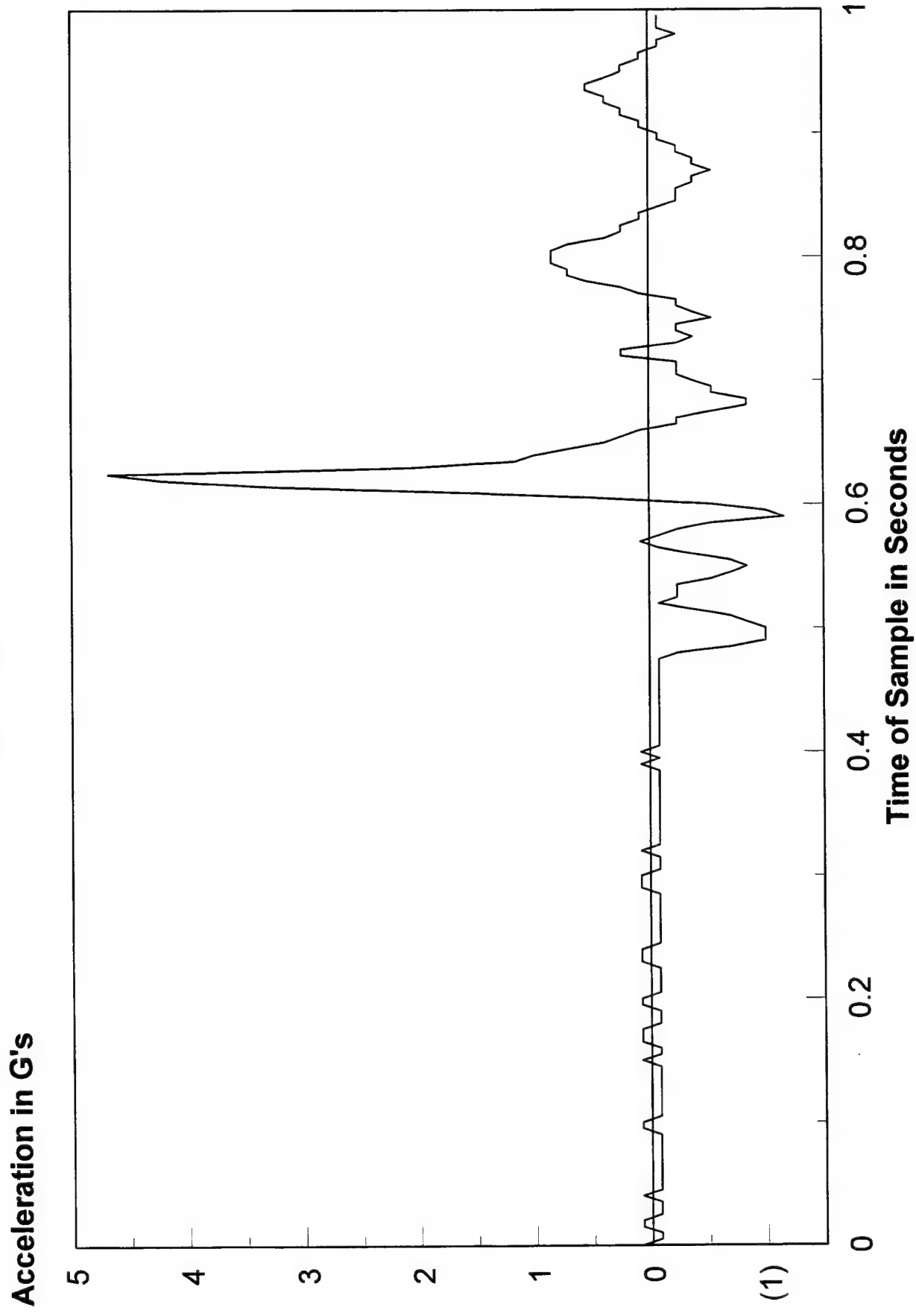
06-29-95, 10:28:10

Acceleration in G's



Vertical Acceleration

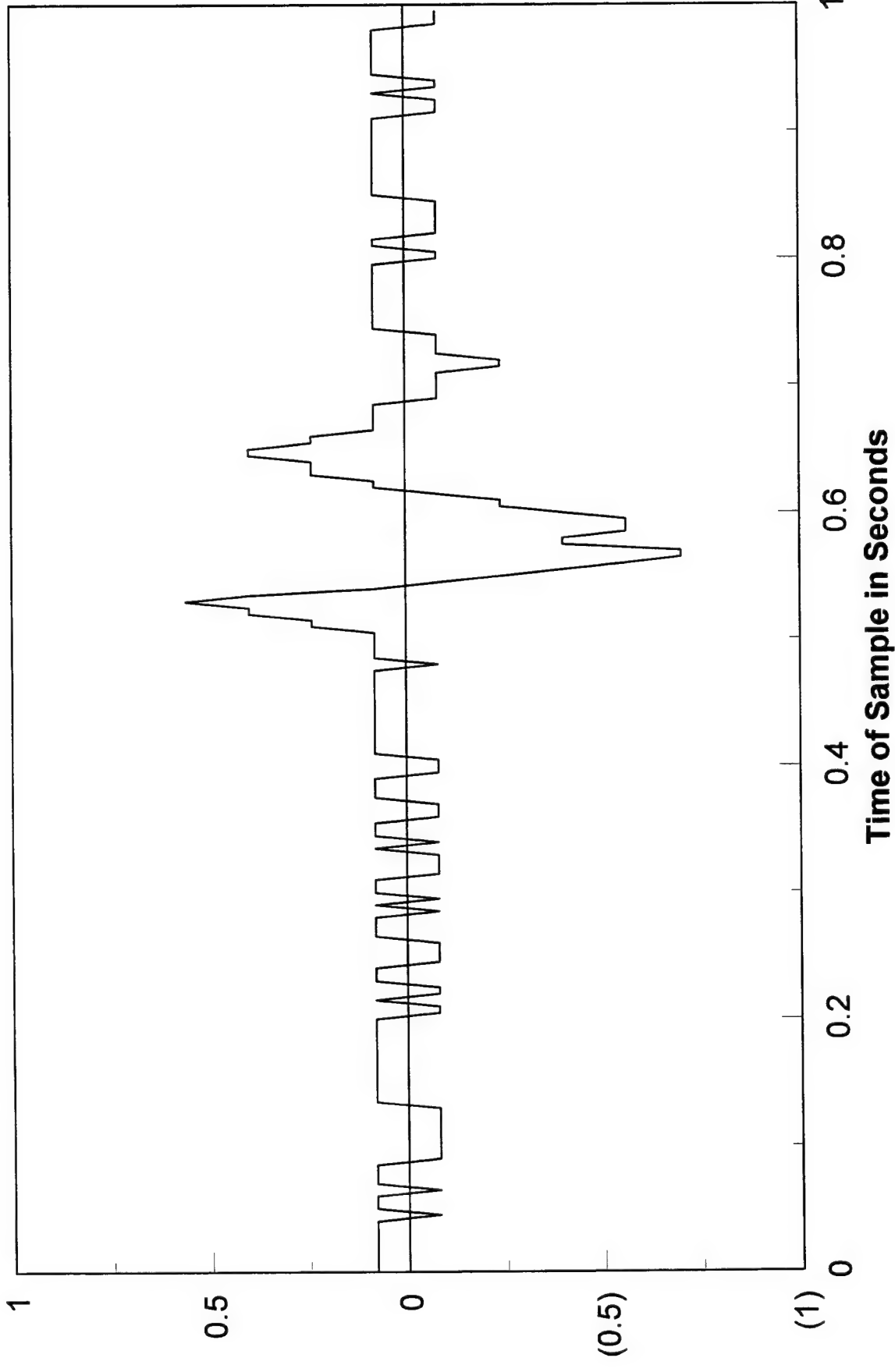
06-29-95, 10:28:10



Longitudinal Acceleration

07/17/95, 03:06:30

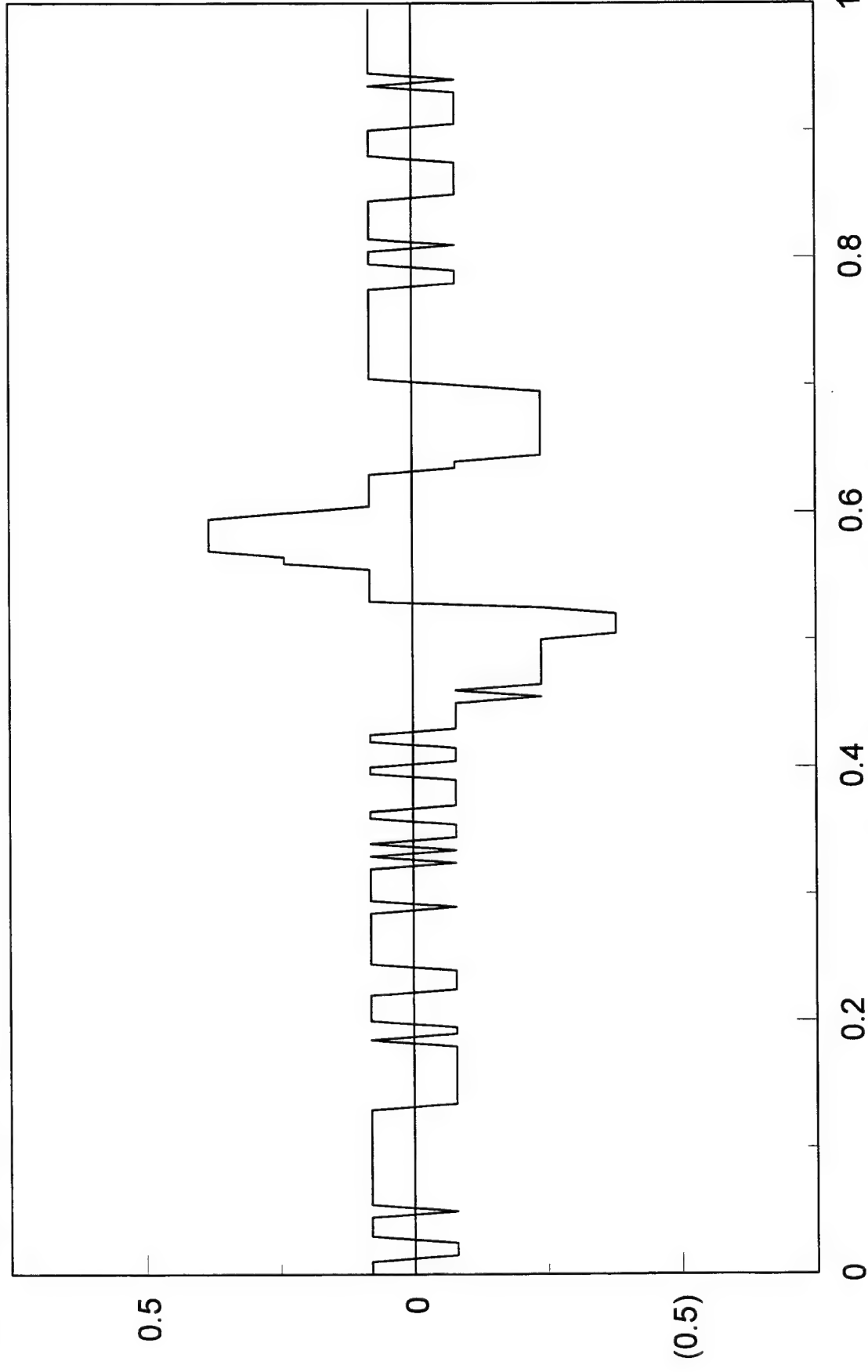
Acceleration in G's



Lateral Acceleration

07/17/95, 03:06:30

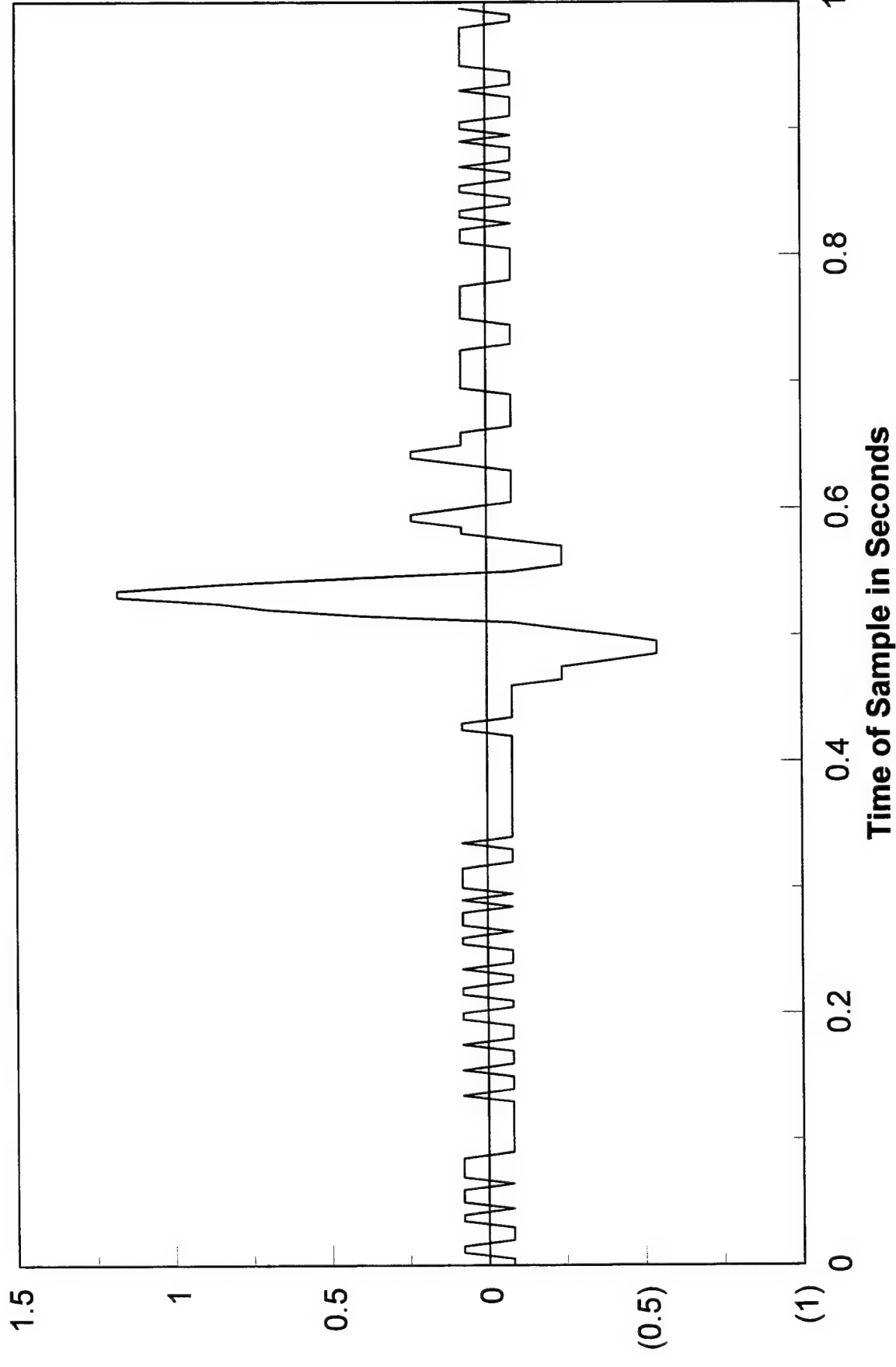
Acceleration in G's



Vertical Acceleration

07/17/95, 03:06:30

Acceleration in G's



PART 6

MINIMUM AND MAXIMUM VALUES BY EVENT

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
06/27/95	09:35:01	-0.38	0.38	-0.70	0.24	-0.54	0.54
06/27/95	09:47:07	-0.38	0.22	-0.24	0.54	-0.24	0.24
06/27/95	09:48:53	-0.22	0.22	-0.70	0.70	-0.54	0.70
06/27/95	15:20:27	-0.38	0.24	-0.40	0.56	-0.40	0.24
06/27/95	15:28:34	-0.70	0.38	-0.24	0.56	-0.24	0.24
06/27/95	16:10:39	-0.24	0.08	-0.56	0.24	-0.24	0.08
06/27/95	16:12:05	-0.54	0.24	-0.24	0.40	-0.24	0.24
06/27/95	16:40:05	-0.38	0.24	-0.40	0.40	-0.40	0.54
06/27/95	16:41:12	-0.24	0.08	-0.56	0.40	-0.24	0.24
06/27/95	16:43:40	-0.54	0.38	-0.24	0.40	-0.40	0.54
06/27/95	16:44:02	-0.38	0.24	-0.24	0.40	-0.54	0.40
06/27/95	16:44:41	-0.54	0.24	-0.24	0.40	-0.24	0.40
06/27/95	16:48:16	-0.54	0.38	-0.40	0.40	-0.40	0.40
06/27/95	16:48:40	-0.54	0.24	-0.40	0.40	-0.24	0.40
06/27/95	16:49:48	-0.54	0.24	-0.24	0.24	-0.24	0.24
06/27/95	16:57:09	-0.54	0.38	-1.02	0.56	-1.02	1.34
06/27/95	17:04:33	-0.54	0.24	-0.24	0.24	-0.40	0.24
06/27/95	17:05:21	-0.38	0.24	-0.24	0.40	-0.54	0.24
06/27/95	17:06:11	-0.38	0.38	-0.24	0.40	-0.54	0.54
06/27/95	17:06:54	-0.38	0.24	-0.40	0.56	-0.40	0.40
06/27/95	17:13:44	-0.38	0.08	-0.24	0.24	-0.54	0.54
06/27/95	17:23:29	-0.54	0.08	-0.40	0.40	-0.54	0.54
06/27/95	17:28:35	-0.24	0.08	-0.24	0.24	-0.54	0.24
06/27/95	17:50:58	-0.54	0.22	-0.40	0.40	-0.24	0.24
06/27/95	18:23:20	-0.38	0.22	-0.54	0.40	-0.54	0.40
06/27/95	18:28:33	-0.38	0.22	-0.40	0.40	-0.54	0.24
06/27/95	18:31:28	-0.22	0.22	-0.40	0.70	-0.54	0.40
06/27/95	18:40:22	-0.22	0.08	-0.54	0.40	-0.54	0.40
06/27/95	18:41:08	-0.22	0.08	-0.54	0.40	-0.40	0.40
06/27/95	18:41:58	-0.38	0.08	-0.54	0.40	-0.40	0.40

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
06/27/95	18:44:50	-0.38	0.22	-0.40	0.40	-0.54	0.40
06/27/95	18:47:00	-0.38	0.08	-0.54	0.40	-0.54	0.70
06/27/95	18:52:35	-0.22	0.08	-0.40	0.54	-0.54	0.38
06/27/95	20:00:14	-0.22	0.08	-0.38	0.54	-0.54	0.38
06/27/95	20:00:53	-0.22	0.08	-0.38	0.38	-0.54	0.24
06/27/95	20:01:12	-0.22	0.08	-0.24	0.38	-0.54	0.24
06/27/95	20:01:40	-0.38	0.22	-0.54	0.38	-0.70	0.70
06/27/95	20:02:21	-0.22	0.08	-0.38	0.38	-0.54	0.24
06/27/95	20:05:07	-0.38	0.22	-0.24	0.38	-0.54	0.38
06/27/95	20:05:25	-0.38	0.22	-0.70	0.38	-0.70	0.54
06/27/95	20:05:56	-0.38	0.08	-0.38	0.38	-0.54	0.24
06/27/95	20:06:26	-0.22	0.08	-0.38	0.38	-0.54	0.38
06/27/95	20:22:15	-0.54	0.22	-0.38	0.24	-0.24	0.24
06/27/95	21:08:21	-0.38	0.08	-0.24	0.38	-0.24	0.54
06/27/95	21:12:22	-0.54	0.08	-0.38	0.38	-0.54	0.24
06/27/95	21:36:01	-0.38	0.08	-0.54	0.38	-0.38	0.38
06/27/95	21:43:58	-0.54	0.22	-0.70	0.70	-0.86	1.00
06/27/95	21:45:40	-0.54	0.38	-0.54	0.38	-0.38	0.38
06/27/95	22:04:14	-0.54	0.22	-0.38	0.38	-0.24	0.24
06/27/95	22:05:34	-0.54	0.22	-0.24	0.38	-0.24	0.24
06/27/95	22:05:55	-0.22	0.08	-0.24	0.38	-0.54	0.54
06/27/95	22:06:45	-0.22	0.22	-0.38	0.38	-0.54	0.38
06/27/95	22:12:38	-0.38	0.08	-0.54	0.38	-0.54	0.38
06/27/95	22:14:31	-0.22	0.08	-0.24	0.24	-0.54	0.38
06/27/95	22:15:52	-0.38	0.08	-0.24	0.38	-0.38	0.54
06/27/95	22:16:35	-0.38	0.08	-0.54	0.24	-0.38	0.24
06/27/95	22:19:37	-0.22	0.08	-0.38	0.38	-0.54	0.38
06/27/95	22:23:00	-0.22	0.22	-0.38	0.38	-0.54	0.54
06/27/95	22:29:50	-0.38	0.22	-0.38	0.38	-0.54	0.70
06/27/95	22:31:01	-0.54	0.08	-0.38	0.24	-0.38	0.38
06/27/95	22:31:35	-0.54	0.22	-0.24	0.24	-0.54	0.54
06/27/95	22:32:17	-0.38	0.08	-0.38	0.54	-0.38	0.24
06/27/95	22:38:25	-0.38	0.22	-0.24	0.38	-0.38	0.54
06/27/95	22:48:19	-0.54	0.22	-0.38	0.24	-0.24	0.24
06/27/95	22:52:32	-0.54	0.38	-0.54	0.38	-0.70	1.00

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
06/27/95	22:54:39	-0.54	0.38	-0.38	0.24	-0.38	0.70
06/27/95	22:56:25	-0.54	0.38	-0.38	0.54	-0.38	0.38
06/27/95	22:58:29	-0.38	0.08	-0.24	0.54	-0.24	0.24
06/27/95	22:59:58	-0.54	0.68	-0.38	0.24	-0.38	0.38
06/27/95	23:05:32	-0.22	0.22	-0.38	0.38	-0.54	0.54
06/27/95	23:11:40	-0.22	0.22	-0.38	0.38	-0.54	0.24
06/27/95	23:18:31	-0.22	0.08	-0.38	0.54	-0.38	0.38
06/27/95	23:26:47	-0.38	0.22	-0.38	0.38	-0.38	0.54
06/28/95	00:21:21	-0.68	0.38	-0.38	0.70	-0.24	0.38
06/28/95	00:27:25	-0.54	0.22	-0.24	0.24	-0.24	0.24
06/28/95	00:28:55	-0.54	0.22	-0.24	0.38	-0.38	0.38
06/28/95	01:05:20	-0.54	0.22	-0.54	0.38	-0.38	0.54
06/28/95	01:20:48	-0.54	0.22	-0.38	0.38	-0.24	0.38
06/28/95	04:43:17	-0.52	0.22	-0.24	0.24	-0.24	0.24
06/28/95	04:48:09	-0.52	0.22	-0.54	0.38	-0.54	0.38
06/28/95	04:55:58	-0.52	0.38	-0.54	0.70	-0.54	0.54
06/28/95	04:56:37	-0.38	0.22	-0.54	0.54	-0.38	0.38
06/28/95	05:22:57	-0.52	0.38	-0.38	0.38	-0.38	0.54
06/28/95	05:23:28	-0.52	0.22	-0.38	0.54	-0.38	0.38
06/28/95	05:24:21	-0.38	0.22	-0.54	0.54	-0.38	0.38
06/28/95	05:25:35	-0.52	0.38	-0.38	0.38	-0.24	0.24
06/28/95	05:26:03	-0.52	0.22	-0.38	0.24	-0.38	0.24
06/28/95	05:27:00	-0.52	0.52	-0.54	0.38	-0.38	0.70
06/28/95	05:28:27	-0.52	0.38	-0.38	0.38	-0.38	0.38
06/28/95	05:28:56	-0.68	0.08	-0.38	0.38	-0.24	0.38
06/28/95	05:32:36	-0.22	0.08	-0.38	0.38	-0.54	0.38
06/28/95	05:33:14	-0.22	0.08	-0.24	0.54	-0.38	0.38
06/28/95	05:43:23	-0.98	0.38	-0.70	0.54	-0.54	0.70
06/28/95	05:45:41	-0.38	0.08	-0.54	0.38	-0.24	0.24
06/28/95	05:50:57	-0.38	0.08	-0.38	0.54	-0.38	0.38
06/28/95	05:58:24	-0.68	0.22	-0.38	0.38	-0.38	0.38
06/28/95	05:58:55	-0.52	0.38	-0.24	0.24	-0.24	0.24
06/28/95	06:00:54	-0.22	0.08	-0.24	0.54	-0.24	0.24
06/28/95	06:07:14	-0.22	0.08	-0.38	0.38	-0.54	0.38
06/28/95	06:11:43	-0.52	0.22	-0.38	0.38	-0.54	0.54

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
06/28/95	07:00:28	-0.68	0.22	-0.24	0.24	-0.38	0.38
06/28/95	07:42:25	-0.38	0.22	-0.38	0.38	-0.54	0.38
06/28/95	08:05:39	-0.38	0.22	-0.24	0.38	-0.54	0.54
06/28/95	08:05:55	-0.52	0.38	-0.38	0.38	-0.54	0.68
06/28/95	08:06:14	-0.52	0.22	-0.24	0.38	-0.38	0.54
06/28/95	08:40:26	-0.38	0.22	-0.38	0.38	-0.54	0.68
06/28/95	08:47:16	-0.52	0.22	-0.38	0.38	-0.38	0.54
06/28/95	09:22:38	-0.52	0.22	-0.54	0.54	-0.38	0.38
06/28/95	10:28:18	-0.52	0.22	-0.38	0.38	-0.54	0.54
06/28/95	10:28:40	-0.38	0.22	-0.24	0.54	-0.38	0.38
06/28/95	10:29:06	-0.54	0.38	-0.24	0.38	-0.38	0.24
06/28/95	10:29:38	-0.38	0.22	-0.38	0.38	-0.54	0.38
06/28/95	10:47:40	-0.22	0.22	-0.54	0.38	-0.38	0.38
06/28/95	10:58:04	-0.38	0.22	-0.24	0.38	-0.54	0.38
06/28/95	12:06:41	-0.22	0.08	-0.24	0.38	-0.54	0.24
06/28/95	12:22:53	-0.38	0.22	-0.38	0.38	-0.54	0.38
06/28/95	12:33:25	-0.38	0.22	-0.24	0.38	-0.54	0.54
06/28/95	12:43:35	-0.22	0.08	-0.24	0.24	-0.54	0.24
06/28/95	13:02:48	-0.22	0.22	-0.24	0.38	-0.54	0.38
06/28/95	13:03:36	-0.38	0.22	-0.38	0.38	-0.38	0.54
06/28/95	13:15:35	-0.54	0.22	-0.38	0.38	-0.38	0.38
06/28/95	13:19:04	-0.54	0.38	-0.24	0.38	-0.24	0.38
06/28/95	13:20:09	-0.38	0.22	-0.38	0.38	-0.54	0.38
06/28/95	13:34:56	-0.54	0.08	-0.38	0.38	-0.24	0.54
06/28/95	14:08:13	-0.22	0.22	-0.54	0.40	-0.38	0.38
06/28/95	14:21:21	-0.68	0.38	-0.40	0.54	-0.24	0.24
06/28/95	14:36:22	-0.38	0.22	-0.40	0.54	-0.54	0.54
06/28/95	15:01:16	-0.38	0.22	-0.24	0.40	-0.54	0.38
06/28/95	15:07:09	-0.38	0.22	-0.40	0.40	-0.54	0.70
06/28/95	15:09:05	-0.84	0.22	-0.70	0.54	-0.70	0.70
06/28/95	15:19:20	-0.84	0.22	-0.40	0.40	-0.54	0.54
06/28/95	15:36:50	-0.54	0.24	-0.40	0.24	-0.54	0.24
06/28/95	15:52:38	-0.54	0.24	-0.40	0.24	-0.40	0.54
06/28/95	19:13:15	-0.70	0.38	-0.24	0.24	-0.40	0.40
06/28/95	19:15:21	-0.24	0.08	-0.56	0.24	-0.24	0.24

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
06/28/95	19:18:33	-0.24	0.08	-0.40	0.40	-0.56	0.40
06/28/95	19:49:59	-0.54	0.38	-0.24	0.40	-0.40	0.56
06/28/95	19:51:45	-0.54	0.24	-0.56	0.56	-0.40	0.40
06/28/95	19:55:14	-0.70	0.38	-0.40	0.24	-0.40	0.40
06/28/95	19:55:57	-0.54	0.24	-0.40	0.40	-0.40	0.40
06/28/95	19:57:02	-0.38	0.24	-0.40	0.56	-0.40	0.54
06/28/95	19:57:54	-0.38	0.08	-0.56	0.56	-0.40	0.54
06/28/95	19:58:16	-0.24	0.08	-0.24	0.40	-0.54	0.40
06/28/95	19:58:46	-0.54	0.24	-0.40	0.40	-0.40	0.54
06/28/95	20:20:10	-0.38	0.08	-0.54	0.40	-0.54	0.54
06/28/95	20:46:49	-0.54	0.24	-0.40	0.40	-0.54	0.70
06/28/95	21:18:02	-0.38	0.08	-0.40	0.54	-0.40	0.54
06/28/95	21:50:26	-0.54	0.22	-0.24	0.24	-0.38	0.38
06/28/95	21:54:24	-0.22	0.08	-0.54	0.40	-0.38	0.54
06/28/95	22:54:33	-0.38	0.22	-0.38	0.54	-0.54	0.54
06/28/95	23:32:35	-0.38	0.22	-0.38	0.38	-0.38	0.54
06/29/95	00:15:17	-0.22	0.22	-0.38	0.38	-0.38	0.54
06/29/95	00:17:15	-0.52	0.22	-0.24	0.24	-0.38	0.38
06/29/95	00:19:06	-0.54	0.22	-0.24	0.24	-0.24	0.24
06/29/95	01:18:53	-0.68	0.38	-0.38	0.38	-0.38	0.38
06/29/95	03:29:22	-0.52	0.38	-0.38	0.24	-0.24	0.24
06/29/95	03:35:10	-0.38	0.22	-0.38	0.38	-0.38	0.54
06/29/95	03:37:55	-0.52	0.38	-0.38	0.38	-0.38	0.24
06/29/95	03:38:36	-0.52	0.52	-0.38	0.38	-0.38	0.54
06/29/95	03:42:06	-0.52	0.38	-0.70	0.54	-0.38	0.54
06/29/95	03:52:52	-0.38	0.22	-0.38	0.54	-0.38	0.38
06/29/95	03:56:39	-0.22	0.08	-0.38	0.54	-0.38	0.38
06/29/95	04:04:43	-0.52	0.22	-0.38	0.38	-0.38	0.38
06/29/95	04:11:50	-0.22	0.22	-0.38	0.38	-0.38	0.70
06/29/95	04:13:02	-0.52	0.22	-0.24	0.38	-0.24	0.24
06/29/95	04:15:21	-0.38	0.08	-0.24	0.38	-0.38	0.54
06/29/95	04:25:03	-0.52	0.22	-0.24	0.38	-0.24	0.24
06/29/95	04:36:52	-0.52	0.08	-0.24	0.24	-0.24	0.38
06/29/95	04:37:16	-0.38	0.08	-0.24	0.38	-0.38	0.70
06/29/95	04:43:06	-0.52	0.22	-0.24	0.24	-0.24	0.24

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
06/29/95	04:43:37	-0.38	0.08	-0.38	0.38	-0.38	0.54
06/29/95	05:01:17	-0.22	0.08	-0.24	0.24	-0.38	0.70
06/29/95	05:06:48	-0.68	0.22	-0.38	0.38	-0.54	0.70
06/29/95	05:07:08	-0.52	0.38	-0.24	0.24	-0.38	0.24
06/29/95	05:13:37	-0.52	0.38	-0.38	0.24	-0.38	0.24
06/29/95	05:21:01	-0.38	0.08	-0.24	0.38	-0.54	0.38
06/29/95	05:33:18	-0.52	0.22	-0.24	0.38	-0.24	0.24
06/29/95	06:22:08	-0.52	0.08	-0.24	0.38	-0.38	0.24
06/29/95	06:24:26	-0.22	0.22	-0.54	0.38	-0.38	0.38
06/29/95	06:51:53	-0.38	0.22	-0.54	0.38	-0.38	0.38
06/29/95	06:53:15	-0.38	0.08	-0.24	0.38	-0.54	0.54
06/29/95	06:54:00	-0.22	0.22	-0.38	0.38	-0.54	0.38
06/29/95	06:55:22	-0.22	0.08	-0.24	0.38	-0.54	0.38
06/29/95	06:57:21	-0.52	0.08	-0.24	0.38	-0.38	0.24
06/29/95	07:09:09	-0.38	0.08	-0.38	0.54	-0.24	0.24
06/29/95	07:09:41	-0.22	0.08	-0.24	0.38	-0.54	0.24
06/29/95	07:10:05	-0.52	0.22	-0.38	0.24	-0.38	0.38
06/29/95	07:29:15	-0.22	0.22	-0.24	0.38	-0.38	0.54
06/29/95	07:33:27	-0.22	0.08	-0.24	0.24	-0.54	0.38
06/29/95	07:34:41	-0.52	0.22	-0.38	0.38	-0.24	0.38
06/29/95	07:40:23	-0.22	0.08	-0.24	0.38	-0.54	0.38
06/29/95	09:52:19	-0.38	0.52	-0.24	0.24	-0.38	1.00
06/29/95	10:21:57	-0.38	0.08	-0.38	0.24	-0.54	0.70
06/29/95	10:22:16	-0.22	0.08	-0.08	0.24	-0.24	0.54
06/29/95	10:22:42	-0.22	0.22	-0.38	0.24	-0.54	0.70
06/29/95	10:23:00	-0.22	0.22	-0.24	0.24	-0.38	0.54
06/29/95	10:23:16	-0.38	0.22	-0.24	0.38	-0.70	0.84
06/29/95	10:23:33	-0.22	0.08	-0.24	0.38	-0.54	0.84
06/29/95	10:24:16	-0.22	0.08	-0.54	0.54	-0.54	0.38
06/29/95	10:26:44	-0.52	0.22	-0.08	0.08	-0.08	0.08
06/29/95	10:28:10	-1.74	2.04	-0.84	1.00	-1.16	4.68
07/15/95	20:40:14	-0.54	0.24	-0.08	0.08	-0.08	0.24
07/15/95	20:55:52	-0.24	0.08	-0.56	0.24	-0.24	0.24
07/17/95	03:06:30	-0.38	0.38	-0.70	0.56	-0.54	1.18
07/17/95	07:24:52	-0.54	0.38	-0.40	0.70	-0.54	0.54

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
07/17/95	17:03:46	-0.22	0.08	-0.54	0.70	-0.24	0.08
07/17/95	17:40:48	-0.22	0.08	-0.24	0.24	-0.38	0.54
07/18/95	01:02:04	-0.24	0.08	-0.24	0.24	-0.40	0.56
07/18/95	01:10:01	-0.24	0.08	-0.24	0.24	-0.24	0.72
07/18/95	01:13:38	-0.54	0.08	-0.24	0.08	-0.24	0.56
07/18/95	01:14:13	-0.40	0.08	-0.24	0.24	-0.24	0.56
07/18/95	01:15:04	-0.40	0.08	-0.24	0.24	-0.24	0.72
07/18/95	01:15:20	-0.24	0.08	-0.24	0.24	-0.24	0.56
07/18/95	01:16:32	-0.40	0.24	-0.24	0.24	-0.40	0.72
07/18/95	01:18:18	-0.24	0.08	-0.24	0.24	-0.24	0.56
07/18/95	01:18:40	-0.40	0.08	-0.24	0.24	-0.24	0.56
07/18/95	01:22:13	-0.40	0.08	-0.24	0.24	-0.24	0.72
07/18/95	01:22:31	-0.24	0.08	-0.24	0.24	-0.24	0.56
07/18/95	01:23:31	-0.24	0.08	-0.24	0.24	-0.08	0.56
07/18/95	01:23:53	-0.24	0.08	-0.24	0.24	-0.24	0.56
07/18/95	01:26:35	-0.24	0.08	-0.08	0.08	-0.24	0.56
07/18/95	01:26:53	-0.24	0.08	-0.24	0.08	-0.24	0.56
07/18/95	01:27:23	-0.40	0.08	-0.24	0.24	-0.24	0.72
07/18/95	01:27:47	-0.40	0.08	-0.24	0.24	-0.24	0.56
07/18/95	01:29:00	-0.54	0.08	-0.24	0.08	-0.24	0.56
07/18/95	10:12:54	-0.54	0.08	-0.08	0.24	-0.24	0.38
07/18/95	10:22:54	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/18/95	10:24:04	-0.54	0.22	-0.24	0.24	-0.24	0.54
07/18/95	10:24:28	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/18/95	10:24:57	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/18/95	10:25:27	-0.54	0.22	-0.24	0.38	-0.38	0.38
07/18/95	10:29:06	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/18/95	10:29:37	-0.54	0.08	-0.24	0.38	-0.24	0.54
07/18/95	10:29:56	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/18/95	10:46:14	-0.22	0.08	-0.24	0.24	-0.24	0.54
07/18/95	10:49:25	-0.38	0.22	-0.38	0.24	-0.24	0.54
07/18/95	10:49:50	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/18/95	10:50:08	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/18/95	10:50:29	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/18/95	10:50:47	-0.54	0.08	-0.24	0.24	-0.24	0.24

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
07/18/95	10:51:14	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/18/95	10:51:45	-0.54	0.08	-0.38	0.24	-0.24	0.70
07/18/95	10:52:16	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/18/95	10:52:35	-0.38	0.08	-0.24	0.24	-0.38	0.70
07/18/95	10:52:57	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/18/95	10:54:14	-0.22	0.22	-0.38	0.24	-0.24	0.54
07/18/95	10:55:51	-0.38	0.08	-0.24	0.08	-0.24	0.54
07/18/95	10:59:15	-0.38	0.08	-0.24	0.24	-0.38	0.54
07/18/95	19:57:24	-0.24	0.08	-0.56	0.70	-0.24	0.08
07/18/95	19:58:19	-0.24	0.08	-0.56	0.56	-0.24	0.24
07/18/95	20:01:21	-0.38	0.08	-0.24	0.24	-0.24	0.70
07/19/95	02:41:28	-0.24	0.08	-0.54	0.70	-0.24	0.24
07/19/95	02:42:48	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	07:10:32	-0.22	0.08	-0.24	0.24	-0.24	0.54
07/19/95	07:11:02	-0.22	0.08	-0.24	0.24	-0.24	0.54
07/19/95	07:53:35	-0.22	0.08	-0.24	0.08	-0.24	0.54
07/19/95	07:53:53	-0.54	0.08	-0.24	0.24	-0.38	0.54
07/19/95	07:57:24	-0.54	0.08	-0.24	0.24	-0.24	0.24
07/19/95	07:58:06	-0.54	0.08	-0.24	0.24	-0.38	0.54
07/19/95	08:00:02	-0.22	0.08	-0.24	0.70	-0.24	0.08
07/19/95	08:07:26	-0.38	0.22	-0.24	0.24	-0.38	0.54
07/19/95	08:10:09	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	08:10:25	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	08:10:55	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	08:12:12	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	08:13:33	-0.54	0.22	-0.24	0.24	-0.24	0.24
07/19/95	08:16:47	-0.54	0.22	-0.24	0.24	-0.38	0.38
07/19/95	08:22:10	-0.54	0.08	-0.24	0.24	-0.24	0.24
07/19/95	08:22:58	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	08:25:06	-0.22	0.22	-0.24	0.24	-0.24	0.54
07/19/95	08:25:31	-0.22	0.22	-0.24	0.24	-0.38	0.54
07/19/95	08:26:30	-0.54	0.08	-0.24	0.24	-0.38	0.24
07/19/95	08:27:05	-0.22	0.08	-0.24	0.24	-0.24	0.70
07/19/95	08:27:28	-0.54	0.22	-0.24	0.24	-0.24	0.54
07/19/95	08:28:05	-0.54	0.08	-0.38	0.38	-0.38	0.38

Shock/Vibration Report by Event

Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
07/19/95	08:38:49	-0.22	0.38	-0.24	0.24	-0.24	0.54
07/19/95	08:40:03	-0.38	0.22	-0.24	0.24	-0.24	0.70
07/19/95	08:40:27	-0.68	0.22	-0.24	0.24	-0.38	0.38
07/19/95	08:41:25	-0.38	0.22	-0.24	0.24	-0.38	0.54
07/19/95	08:43:22	-0.38	0.08	-0.24	0.24	-0.38	0.54
07/19/95	08:43:59	-0.38	0.22	-0.24	0.24	-0.24	0.70
07/19/95	08:44:17	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	08:44:40	-0.84	0.22	-0.24	0.24	-0.38	0.54
07/19/95	08:46:07	-0.38	0.08	-0.24	0.24	-0.38	0.70
07/19/95	08:48:11	-0.38	0.08	-0.24	0.24	-0.24	0.70
07/19/95	08:48:49	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	08:49:13	-0.38	0.08	-0.24	0.24	-0.24	0.70
07/19/95	08:49:32	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	08:50:01	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	08:53:53	-0.22	0.08	-0.08	0.24	-0.24	0.54
07/19/95	08:54:16	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	08:54:38	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	08:56:30	-0.68	0.22	-0.24	0.38	-0.24	0.38
07/19/95	08:56:56	-0.54	0.08	-0.24	0.24	-0.38	0.70
07/19/95	08:57:40	-0.22	0.08	-0.24	0.24	-0.24	0.54
07/19/95	08:58:20	-0.54	0.22	-0.24	0.24	-0.24	0.70
07/19/95	08:59:38	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	08:59:55	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	09:00:43	-0.38	0.08	-0.24	0.24	-0.38	0.70
07/19/95	09:04:15	-0.54	0.22	-0.24	0.38	-0.38	0.54
07/19/95	09:06:11	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	09:06:31	-0.38	0.08	-0.24	0.24	-0.38	0.54
07/19/95	09:07:04	-0.68	0.38	-0.24	0.24	-0.38	0.86
07/19/95	09:07:29	-0.22	0.08	-0.24	0.24	-0.24	0.54
07/19/95	09:07:56	-0.68	0.08	-0.24	0.24	-0.38	0.70
07/19/95	09:08:25	-0.54	0.08	-0.24	0.38	-0.54	0.24
07/19/95	09:14:58	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	09:15:18	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	09:15:40	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	09:16:01	-0.54	0.08	-0.24	0.24	-0.24	0.70

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
07/19/95	09:16:47	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	09:18:36	-0.38	0.22	-0.24	0.24	-0.38	0.54
07/19/95	09:18:52	-0.22	0.22	-0.24	0.24	-0.38	0.54
07/19/95	09:20:34	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	09:23:58	-0.22	0.08	-0.24	0.08	-0.38	0.54
07/19/95	09:38:56	-0.68	0.38	-0.24	0.38	-0.38	0.70
07/19/95	09:39:46	-0.68	0.22	-0.24	0.24	-0.38	0.38
07/19/95	09:40:27	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	09:42:32	-0.54	0.22	-0.24	0.24	-0.24	0.08
07/19/95	09:52:02	-0.22	0.08	-0.24	0.24	-0.38	0.54
07/19/95	09:54:20	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	09:55:38	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	09:55:54	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	09:58:53	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	10:47:43	-0.54	0.08	-0.24	0.24	-0.38	0.54
07/19/95	10:48:01	-0.38	0.08	-0.24	0.08	-0.38	0.54
07/19/95	10:48:32	-0.22	0.08	-0.24	0.24	-0.24	0.54
07/19/95	10:50:06	-0.22	0.22	-0.24	0.24	-0.24	0.54
07/19/95	10:51:02	-0.54	0.08	-0.24	0.24	-0.24	0.70
07/19/95	10:51:19	-0.38	0.08	-0.24	0.24	-0.24	0.70
07/19/95	10:52:01	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	10:52:53	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	10:53:39	-0.54	0.22	-0.24	0.24	-0.24	0.54
07/19/95	10:56:13	-0.54	0.22	-0.24	0.24	-0.38	0.24
07/19/95	10:57:55	-0.54	0.22	-0.24	0.24	-0.38	0.70
07/19/95	10:59:10	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:15:45	-0.38	0.08	-0.24	0.24	-0.24	0.70
07/19/95	11:16:51	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:19:51	-0.38	0.22	-0.24	0.38	-0.24	0.54
07/19/95	11:20:20	-0.68	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:20:43	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:21:12	-0.68	0.08	-0.24	0.24	-0.24	0.38
07/19/95	11:23:41	-0.38	0.08	-0.24	0.08	-0.38	0.54
07/19/95	11:24:03	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:25:07	-0.38	0.22	-0.24	0.38	-0.38	0.54

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
07/19/95	11:26:10	-0.54	0.08	-0.24	0.08	-0.24	0.38
07/19/95	11:26:32	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	11:29:31	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:30:13	-0.54	0.08	-0.38	0.38	-0.38	0.70
07/19/95	11:30:30	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	11:30:46	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:31:06	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	11:33:11	-0.38	0.22	-0.24	0.24	-0.38	0.70
07/19/95	11:34:51	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	11:35:28	-0.98	0.22	-0.24	0.24	-0.38	0.70
07/19/95	11:35:51	-0.22	0.08	-0.24	0.24	-0.54	0.38
07/19/95	11:36:09	-0.98	0.22	-0.38	0.38	-0.38	1.00
07/19/95	11:36:43	-0.54	0.08	-0.24	0.24	-0.24	0.70
07/19/95	11:37:30	-0.22	0.08	-0.24	0.38	-0.24	0.54
07/19/95	11:37:57	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	11:38:24	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:39:58	-0.54	0.08	-0.24	0.24	-0.24	0.70
07/19/95	11:40:38	-0.22	0.08	-0.08	0.24	-0.24	0.54
07/19/95	11:41:39	-0.38	0.08	-0.24	0.24	-0.38	0.54
07/19/95	11:41:55	-0.38	0.08	-0.24	0.08	-0.24	0.54
07/19/95	11:42:19	-0.22	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:42:39	-0.22	0.08	-0.24	0.24	-0.38	0.70
07/19/95	11:42:56	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:43:13	-0.38	0.08	-0.24	0.24	-0.38	0.70
07/19/95	11:43:49	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:44:12	-0.54	0.22	-0.24	0.24	-0.24	0.24
07/19/95	11:44:51	-0.38	0.22	-0.24	0.24	-0.38	0.54
07/19/95	11:45:44	-0.68	0.08	-0.24	0.24	-0.24	0.38
07/19/95	11:46:22	-0.54	0.08	-0.24	0.24	-0.38	0.38
07/19/95	11:46:46	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:47:12	-0.68	0.22	-0.24	0.38	-0.24	0.54
07/19/95	11:47:53	-0.38	0.08	-0.24	0.38	-0.54	0.38
07/19/95	11:49:12	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:49:49	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:52:38	-0.54	0.22	-0.24	0.24	-0.38	0.54

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
07/19/95	11:54:00	-0.68	0.22	-0.24	0.38	-0.24	0.54
07/19/95	11:54:51	-0.22	0.38	-0.24	0.24	-0.24	0.54
07/19/95	11:56:55	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	11:57:13	-0.54	0.22	-0.24	0.24	-0.38	0.54
07/19/95	11:57:59	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	11:59:23	-0.38	0.22	-0.24	0.38	-0.24	0.54
07/19/95	11:59:50	-0.22	0.22	-0.24	0.24	-0.24	0.54
07/19/95	12:00:13	-0.38	0.22	-0.24	0.24	-0.54	0.38
07/19/95	12:01:05	-0.54	0.22	-0.24	0.24	-0.38	0.38
07/19/95	12:01:24	-0.54	0.22	-0.24	0.24	-0.38	0.54
07/19/95	12:03:10	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:05:16	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:06:16	-0.38	0.22	-0.38	0.24	-0.24	0.54
07/19/95	12:06:40	-0.68	0.22	-0.24	0.38	-0.24	0.38
07/19/95	12:07:03	-0.38	0.08	-0.24	0.24	-0.38	0.70
07/19/95	12:07:21	-0.38	0.08	-0.24	0.38	-0.38	0.54
07/19/95	12:08:15	-0.68	0.22	-0.24	0.24	-0.38	0.38
07/19/95	12:08:33	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:09:24	-0.54	0.38	-0.24	0.38	-0.38	0.70
07/19/95	12:09:53	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	12:10:27	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	12:11:33	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:12:24	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:12:49	-0.38	0.08	-0.24	0.24	-0.38	0.54
07/19/95	12:13:51	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:14:24	-0.54	0.08	-0.24	0.38	-0.38	0.38
07/19/95	12:14:48	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	12:15:12	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:15:29	-0.54	0.08	-0.24	0.38	-0.24	0.24
07/19/95	12:15:46	-0.54	0.22	-0.24	0.24	-0.24	0.70
07/19/95	12:16:07	-0.38	0.08	-0.38	0.24	-0.08	0.54
07/19/95	12:16:33	-0.54	0.08	-0.38	0.24	-0.38	0.38
07/19/95	12:16:57	-0.54	0.08	-0.24	0.24	-0.38	0.86
07/19/95	12:17:20	-0.22	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:17:41	-0.54	0.08	-0.24	0.24	-0.24	0.54

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
07/19/95	12:19:44	-0.38	0.08	-0.24	0.24	-0.38	0.54
07/19/95	12:20:57	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:21:18	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	12:22:20	-0.38	0.22	-0.24	0.38	-0.24	0.54
07/19/95	12:30:17	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:32:35	-0.22	0.08	-0.38	0.38	-0.24	0.54
07/19/95	12:32:55	-0.38	0.08	-0.38	0.38	-0.38	0.54
07/19/95	12:34:46	-0.54	0.08	-0.24	0.24	-0.24	0.70
07/19/95	12:35:03	-0.54	0.08	-0.24	0.24	-0.24	0.70
07/19/95	12:35:21	-0.38	0.08	-0.38	0.24	-0.24	0.54
07/19/95	12:36:03	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:36:19	-0.38	0.08	-0.38	0.38	-0.24	0.70
07/19/95	12:36:48	-0.54	0.08	-0.38	0.24	-0.24	0.38
07/19/95	12:37:12	-0.38	0.08	-0.24	0.38	-0.24	0.70
07/19/95	12:37:53	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:38:15	-0.54	0.08	-0.24	0.38	-0.24	0.38
07/19/95	12:38:37	-0.54	0.08	-0.24	0.08	-0.38	0.38
07/19/95	12:40:22	-0.54	0.08	-0.24	0.38	-0.24	0.38
07/19/95	12:40:42	-0.54	0.22	-0.24	0.24	-0.24	0.24
07/19/95	12:41:10	-0.54	0.22	-0.24	0.38	-0.38	0.24
07/19/95	12:41:27	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:43:45	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	12:44:33	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	12:44:57	-0.22	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:45:51	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	12:47:51	-0.54	0.08	-0.24	0.24	-0.54	0.54
07/19/95	12:48:11	-0.68	0.22	-0.24	0.38	-0.54	0.54
07/19/95	12:48:48	-0.38	0.22	-0.24	0.24	-0.24	0.70
07/19/95	12:49:58	-0.54	0.08	-0.24	0.38	-0.38	0.70
07/19/95	12:50:29	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	12:50:52	-0.54	0.08	-0.24	0.24	-0.38	0.24
07/19/95	12:51:13	-0.54	0.22	-0.24	0.38	-0.24	0.54
07/19/95	12:51:49	-0.54	0.22	-0.24	0.24	-0.24	0.54
07/19/95	12:54:20	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	12:54:45	-0.54	0.08	-0.24	0.24	-0.24	0.54

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
07/19/95	12:55:27	-0.54	0.22	-0.24	0.24	-0.38	0.54
07/19/95	12:55:44	-0.68	0.22	-0.24	0.24	-0.38	0.54
07/19/95	12:56:02	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	12:56:25	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	12:56:44	-0.38	0.08	-0.24	0.38	-0.24	0.54
07/19/95	12:57:25	-0.54	0.22	-0.24	0.24	-0.38	0.54
07/19/95	12:58:28	-0.54	0.22	-0.24	0.24	-0.24	0.54
07/19/95	12:58:48	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	13:00:14	-0.54	0.22	-0.24	0.24	-0.24	0.54
07/19/95	13:00:34	-0.22	0.22	-0.38	0.24	-0.24	0.54
07/19/95	13:00:55	-0.54	0.08	-0.38	0.24	-0.24	0.70
07/19/95	13:01:17	-0.54	0.08	-0.24	0.38	-0.38	0.54
07/19/95	13:01:50	-0.54	0.22	-0.24	0.38	-0.38	0.38
07/19/95	13:02:38	-0.22	0.08	-0.24	0.24	-0.38	0.54
07/19/95	13:03:14	-0.54	0.22	-0.38	0.24	-0.54	0.38
07/19/95	13:03:42	-0.54	0.22	-0.24	0.24	-0.38	0.54
07/19/95	13:04:03	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	13:05:35	-0.54	0.08	-0.24	0.38	-0.24	0.70
07/19/95	13:06:39	-0.68	0.22	-0.24	0.24	-0.54	0.54
07/19/95	13:07:18	-0.54	0.08	-0.24	0.24	-0.24	0.70
07/19/95	13:09:38	-0.54	0.08	-0.38	0.38	-0.24	0.38
07/19/95	13:11:41	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	13:12:35	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	13:13:15	-0.54	0.08	-0.24	0.08	-0.24	0.38
07/19/95	13:14:02	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	13:15:37	-0.54	0.08	-0.24	0.38	-0.24	0.54
07/19/95	13:15:56	-0.54	0.22	-0.24	0.08	-0.38	0.24
07/19/95	13:16:23	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	13:17:08	-0.54	0.22	-0.24	0.24	-0.38	0.54
07/19/95	13:17:37	-0.54	0.38	-0.24	0.24	-0.54	0.70
07/19/95	13:18:00	-0.22	0.08	-0.24	0.24	-0.38	0.54
07/19/95	13:18:17	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	13:19:13	-0.22	0.08	-0.24	0.24	-0.38	0.54
07/19/95	13:20:02	-0.38	0.08	-0.24	0.24	-0.38	0.54
07/19/95	13:23:44	-0.38	0.08	-0.24	0.24	-0.24	0.54

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
07/19/95	13:24:38	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	13:25:26	-0.54	0.22	-0.24	0.38	-0.24	0.54
07/19/95	13:26:13	-0.38	0.08	-0.38	0.24	-0.38	0.54
07/19/95	13:26:43	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	13:27:00	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	13:27:16	-0.38	0.08	-0.24	0.38	-0.38	0.54
07/19/95	13:28:42	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	13:28:59	-0.38	0.08	-0.24	0.38	-0.24	0.54
07/19/95	13:29:47	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	13:30:05	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	13:37:17	-0.22	0.22	-0.24	0.24	-0.38	0.54
07/19/95	13:38:24	-0.22	0.08	-0.24	0.24	-0.24	0.54
07/19/95	13:42:59	-0.54	0.22	-0.24	0.24	-0.24	0.54
07/19/95	13:43:42	-0.54	0.08	-0.24	0.24	-0.38	0.54
07/19/95	13:44:07	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	13:45:41	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	14:01:12	-0.38	0.22	-0.24	0.24	-0.38	0.70
07/19/95	14:01:34	-0.54	0.08	-0.24	0.24	-0.38	0.38
07/19/95	14:05:04	-0.68	0.08	-0.24	0.24	-0.38	0.38
07/19/95	14:06:06	-0.68	0.08	-0.24	0.24	-0.24	0.38
07/19/95	14:06:34	-0.54	0.22	-0.24	0.38	-0.38	0.38
07/19/95	14:09:11	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	14:52:31	-0.38	0.22	-0.24	0.24	-0.38	0.54
07/19/95	14:52:48	-0.54	0.08	-0.24	0.38	-0.24	0.54
07/19/95	14:53:04	-0.54	0.22	-0.24	0.24	-0.24	0.24
07/19/95	14:54:16	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	14:54:45	-0.54	0.08	-0.24	0.24	-0.38	0.54
07/19/95	14:59:03	-0.38	0.08	-0.24	0.38	-0.24	0.54
07/19/95	15:00:43	-0.38	0.22	-0.38	0.24	-0.38	0.54
07/19/95	15:41:42	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	15:50:19	-0.54	0.08	-0.24	0.08	-0.08	0.24
07/19/95	15:51:03	-0.54	0.22	-0.24	0.24	-0.38	0.54
07/19/95	15:53:36	-0.68	0.22	-0.24	0.24	-0.38	0.70
07/19/95	15:55:36	-0.38	0.08	-0.24	0.24	-0.54	0.54
07/19/95	15:55:54	-0.38	0.08	-0.24	0.24	-0.24	0.54

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
07/19/95	15:57:20	-0.38	0.08	-0.38	0.38	-0.38	0.70
07/19/95	15:57:37	-0.54	0.08	-0.24	0.24	-0.24	0.70
07/19/95	15:58:15	-0.54	0.22	-0.24	0.24	-0.38	0.54
07/19/95	16:05:20	-0.38	0.08	-0.24	0.08	-0.08	0.54
07/19/95	16:06:20	-0.68	0.08	-0.38	0.38	-0.24	0.54
07/19/95	16:07:17	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	16:08:19	-0.38	0.08	-0.24	0.38	-0.24	0.54
07/19/95	16:09:13	-0.68	0.08	-0.24	0.24	-0.24	0.54
07/19/95	16:09:33	-0.38	0.08	-0.38	0.38	-0.24	0.70
07/19/95	16:09:58	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	16:11:49	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	16:12:05	-0.54	0.08	-0.38	0.24	-0.24	0.38
07/19/95	16:13:13	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	16:14:41	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	16:16:11	-0.54	0.08	-0.24	0.38	-0.38	0.54
07/19/95	16:17:59	-0.22	0.08	-0.38	0.38	-0.24	0.54
07/19/95	16:19:42	-0.84	0.08	-0.24	0.24	-0.24	0.70
07/19/95	16:20:35	-0.38	0.22	-0.24	0.24	-0.24	0.54
07/19/95	16:20:51	-0.68	0.08	-0.24	0.24	-0.24	0.54
07/19/95	16:21:15	-0.22	0.22	-0.24	0.08	-0.24	0.54
07/19/95	16:21:54	-0.54	0.08	-0.24	0.24	-0.24	0.70
07/19/95	16:25:56	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	16:29:15	-0.68	0.22	-0.24	0.38	-0.24	0.54
07/19/95	16:30:12	-0.38	0.08	-0.24	0.38	-0.24	0.54
07/19/95	16:30:33	-0.38	0.38	-0.24	0.24	-0.08	0.70
07/19/95	16:31:00	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	16:31:26	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	16:31:55	-0.54	0.08	-0.24	0.38	-0.24	0.70
07/19/95	16:34:04	-0.54	0.08	-0.24	0.24	-0.24	0.38
07/19/95	16:35:59	-0.22	0.22	-0.24	0.24	-0.24	0.54
07/19/95	16:38:35	-0.22	0.22	-0.24	0.24	-0.24	0.54
07/19/95	16:39:33	-0.22	0.22	-0.24	0.24	-0.24	0.54
07/19/95	16:40:04	-0.38	0.08	-0.24	0.24	-0.24	0.54
07/19/95	16:41:03	-0.68	0.22	-0.38	0.38	-0.38	0.38
07/19/95	16:41:27	-0.38	0.08	-0.24	0.38	-0.24	0.54

Shock/Vibration Report by Event							
Date	Time	Lat Accel (min)	Lat Accel (max)	Long Accel (min)	Long Accel (max)	Vert Accel (min)	Vert Accel (max)
07/19/95	16:41:45	-0.38	0.22	-0.38	0.24	-0.24	0.54
07/19/95	16:42:07	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	16:42:26	-0.54	0.22	-0.24	0.24	-0.38	0.54
07/19/95	16:44:07	-0.54	0.08	-0.24	0.38	-0.24	0.54
07/19/95	16:46:40	-0.22	0.08	-0.24	0.08	-0.38	0.54
07/19/95	16:47:35	-0.54	0.08	-0.38	0.24	-0.24	0.70
07/19/95	16:47:56	-0.22	0.38	-0.24	0.24	-0.24	0.86
07/19/95	16:48:12	-0.54	0.22	-0.24	0.24	-0.38	0.38
07/19/95	16:48:54	-0.54	0.08	-0.24	0.24	-0.24	0.54
07/19/95	16:50:43	-0.68	0.08	-0.24	0.24	-0.38	0.54
07/19/95	16:53:55	-0.22	0.22	-0.24	0.24	-0.38	0.70